BOSTON INNER HARBOR WATER DEPENDENT USE REPORT

Prepared By:
THE BOSTON HARBOR ASSOCIATES

Prepared For:
BOSTON REDEVELOPMENT AUTHORITY
BOSTON ECONOMIC DEVELOPMENT
and INDUSTRIAL CORPORATION
BOSTON SHIPPING ASSOCIATION
MASSACHUSETTS PORT AUTHORITY
MASSACHUSETTS OFFICE OF COASTAL ZONE MANAGEMENT

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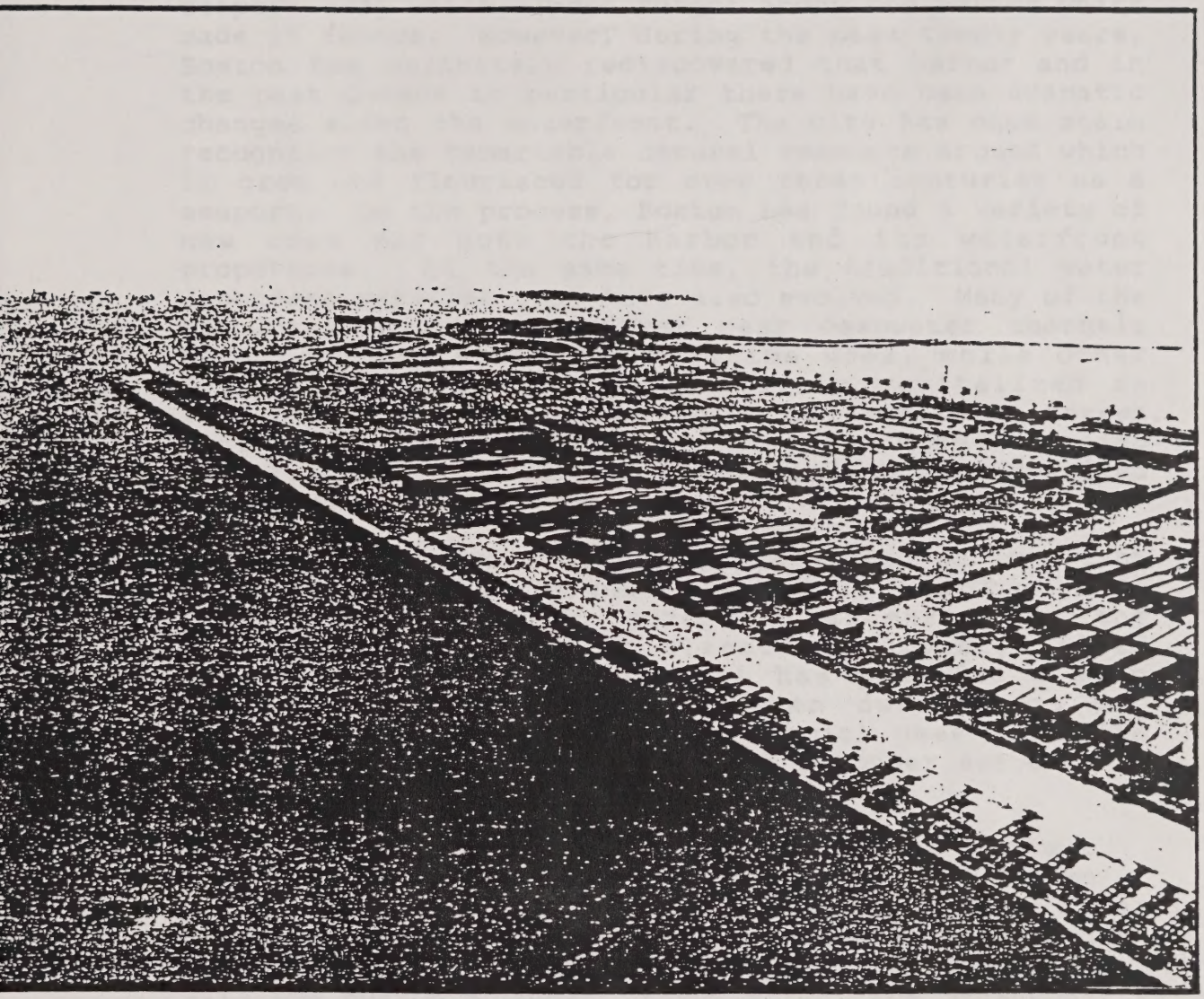

Conley Terminal, South Boston

1.0 REPORT SUMMARY

1.1 REDISCOVERING THE BOSTON HARBOR

Not so long ago, there was an internationally renowned seaport city which almost forgot about the harbor which made it famous. However, during the past twenty years, Boston has definitely rediscovered that harbor and in the past decade in particular there have been dramatic changes along the waterfront. The city has once again recognized the remarkable natural resource around which it grew and flourished for over three centuries as a seaport. In the process, Boston has found a variety of new uses for both the harbor and its waterfront properties. At the same time, the traditional water dependent maritime uses have also evolved. Many of the abandoned piers and wharves near deepwater channels have been reclaimed for maritime uses, while other properties have been imaginatively revitalized as residences, hotels, office space and small businesses. As the inner harbor develops, more and more competing waterfront development interests need to be recognized and coordinated.

The landmark Querico decision represented an important response to these changes. It led to the Chapter 91 Tidelands legislation governing licensing by the Commonwealth for new or altered previously filled public tidelands. Chapter 91 has provided a much needed mediating process between development of maritime industries and new commercial uses along the shoreline of Boston Harbor as well as other seaport communities along the Massachusetts coast.

In response to the rapid changes of land use and competing interests for waterfront sites, the Boston Harbor Associates initiated a study of the inner harbor of Boston to help provide a central information base about water based activities. In collaboration with the Boston Shipping Association, the Massachusetts Port Authority, the Massachusetts Office of Coastal Zone Management, the Boston Redevelopment Authority, and the City of Boston Economic Development and Industrial Corporation, TBHA embarked upon the analysis and evaluation of water dependent uses in the Inner Harbor in November of 1985. The primary purposes of the study were identified by the sponsor group:

- to catalog existing waterfront uses on a database program and in map form.

BOSTON INNER HARBOR
Study Area

Figure 1.1

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- to clarify and expand water dependent use definitions by detailing their functional characteristics such as water depth, access, and dock requirements.

- to demonstrate new techniques for analysis and evaluation of waterfront sites.

- to identify issues and opportunities for maintaining a full range of maritime uses around the harbor, consistent with the purpose of the Chapter 91 legislation.

1.2 CREATING A HARBOR DATA BANK

The first important product of the study was the assembly of information and creation of a new data base for the inner harbor in an easily accessible format. The initial data collection efforts confirmed the hypothesis that existing land and water use information was fragmented. Twelve key documents were collected, each addressing different facets of the harbor or waterfront, with no cross references between documents. In addition original research had to be done on water-use patterns.

The data bank created catalogues of existing waterfront uses and characteristics in a computer database program, Data Ease, as well as in cross referenced map form. With the new information base available, agencies and organizations making decisions about all types of waterfront development will be able to do so with a greatly expanded perspective on the harbor. The data base will also facilitate individual sponsor agency policy decisions as well as collective planning and development decisions about the harbor.

The database findings verified many suspicions and revealed new patterns. The land-use data has documented the relatively rapid rate of change from predominantly maritime industrial activities to a mixture of traditional and new water dependent uses, combined with non-water dependent development of various types. Other characteristics worth noting include:

- Substantial amounts of water frontage remain in public ownership

- Pier and bulkhead conditions vary widely with many needing significant repair or construction.

- The six geographical areas of the waterfront have distinct characters with substantial neighborhood concern and involvement in use changes.

- o A major role in wet bulk maritime shipping activity is played by the Everett and Chelsea shoreline terminals.

- o There is a limited supply of piers and wharves of various types and they are a non-renewable resource.

- o Current conditions indicate a basic division of the waterfront into three categories:

Summary of Use by Linear Waterfrontage:

- Water Dependent Use	29	miles or 49% of harborfront
- Mixed-Use	20	miles or 33%
- Vacant/Unbuilt	11	miles or 18%
TOTAL	60	miles or 100%

1.3 DEFINITIONS OF WATER DEPENDENT USES

The second new product of the report was an expanded list and detailed definitions of water dependent uses in the inner harbor. The definitions include traditional and new maritime uses, as well as emerging uses such as ferry services, water clean-up and recreational facilities which are all water dependent, but not grouped as maritime industrial.

To begin, the study had to clearly define "water dependent", and then provide quantifiable information on which sites have different water dependent characteristics. Reaffirming Chapter 91 language, the study determined that "water dependent" defines ... "those uses and facilities which require direct access to or location on coastal or inland waters and which therefore cannot be located away from said waters."

The definitions for individual categories of water dependent use were detailed enough to include specific functional characteristics required for waterfront sites. Typical categories included maritime shipping, support, transportation, public safety, cultural and educational, recreational, interim uses, and future uses. Characteristics included such functional requirements for each use type as water depth, access and dock requirements.

Evaluation of the harborfront land and water uses revealed a clear hierarchy of water dependent use types by complexity of site requirement. The process of expanding definitions revealed other useful findings:

- Chapter 91 definitions of water dependency were appropriate for general application, but did not provide enough detail to differentiate between maritime industrial and other water dependent uses.

- Deep water shipping requires the most exacting site requirements, and potential locations around the harbor are limited.

- Other water dependent uses have varying levels of need regarding infrastructure and locational preference.

- New maritime uses are emerging which should be incorporated into Chapter 91 licensing, Designated Port Area regulations and zoning changes. Such uses include water transportation, harbor clean-up facilities, and new recreational activities.

- A vision of the harbor as a waterbased community was presented in contrast to the conventional landside perception.

- Chapter 91 licensing is an evolving process which can be refined and adapted to meet changing waterfront use patterns.

BOSTON INNER HARBOR
Study Area

Figure 1.2

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1.4 NEW TECHNIQUES FOR EVALUATING WATERFRONT SITES

The third key product of the report is a set of new techniques for evaluating waterfront sites and their suitability for water dependent use. The techniques for individual site and harborwide site analysis were designed to assist users in two areas of decision-making:

- to assess the suitability of a particular waterfront site, such as the Revere Sugar property in Charlestown, for water dependent uses versus non-water dependent uses.

- to identify sites available on a harbor-wide basis for specific water dependent uses, such as heavy maritime industrial or water transportation.

The new technique for site evaluation works in the following way. The data base and water dependent use definitions are set up to allow cross referencing of sites and uses according to functional characteristics. If an individual site is to be assessed as to is its suitability for water dependent use, the data provided such as water depth, bulkhead condition, and landside access can be compared to the definitions to determine which uses may be more or less compatible. Alternatively if a specific water dependent use is seeking a harbor site, the characteristics of that site can be compared with all parcels in the data base to see what choices are available, to what degree they are appropriate, and how many sites remain for such uses.

The techniques were applied to two case studies to test and refine the methodology. A portion of the East Boston waterfront along Border Street was chosen for one case study of a particular area in a state of transition of waterfront activity. The harborwide Designated Port Areas were evaluated as a second case study to test site comparison techniques.

The East Boston case study demonstrated how a specific geographical area plays an integral role in harborwide port activity. The first case study revealed the following:

- A variety of water dependent uses are necessary to support deep water shipping in the port, including tugboats, pilots, ship repair, and barge or other vessel storage. They require medium depth piers with considerable dockage length.

BOSTON INNER HARBOR

Figure 1.3

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- The water transportation industry is expanding and requires support space away from busy downtown terminals including vessel storage, servicing and maintenance.

- East Boston is currently providing much of the space for shipping support and can accommodate water transportation support with its medium depth piers, and distinct choices are needed if growth of these two water dependent industries is to continue.

The Designated Port Area case study suggested reconsideration of several aspects of the initial and currently operative DPA regulatory policy:

- The original DPA's covered most but not all of the waterfront areas in the harbor which have functional characteristics suitable for DPA's. Additional areas for inclusion based on functional analysis include segments of the Reserved Channel in South Boston, areas along the Little Mystic in Charlestown, properties on Border Street in East Boston and the East Boston Piers.

- DPA definitions may require periodic updating and refinement as maritime uses such as water transportation and harbor clean-up emerge or as other uses' needs change.

- Permitting of non-water dependent uses in DPA's should be given greater scrutiny through Chapter 91 licensing and other coordinated city and state regulatory procedures, as such uses can alter the purpose of DPA's.

- Currently proposed Maritime Economy Reserve zones in the rezoning by the city of Boston should be carefully coordinated with DPA's in terms of location, regulatory procedures, and uses permitted.

- The Designated Port Area regulations when combined with Chapter 91 and coordinated with city zoning provide the most effective regulatory and policy mechanisms for perpetuating water dependent uses in the inner harbor.

1.5 HARBOR ISSUES: CHOICES FOR THE FUTURE OF THE PORT

The dynamic character of the Boston Harbor can be illustrated by the dramatic changes anticipated as four projects proceed from planning to reality: the harbor clean-up by the Massachusetts Water Resources Authority, the third harbor tunnel/seaport access road by EOTC, the conversion of the Boston Shipyard to new maritime support activities, and a major mixed-use project such as the Fan Piers in South Boston. Many hard choices will have to be made regarding uses of publicly held waterfront properties and regulations applying to privately held parcels. At best such choices should be made with a shared vision of what the future of the harbor and port can be. At the least such decisions should be made with a common information base about waterfront land-use.

The site evaluation techniques and data base are intended to fill one of several missing links in the planning for balanced harbor growth. The various sponsor agencies and other users will find their own applications for these techniques. For example, DEQE and CZM should find the site analysis methodology useful for Chapter 91 licensing and MEPA reviews for both the Boston Harbor and on a statewide basis. The BRA should apply the techniques and the data base to the Harborpark planning process, and particularly for water transportation components. Massport and the Boston Shipping Association should find the data and techniques helpful in coordinating plans for the future of the Port. EDIC should benefit from a detailed data base on South Boston and the relationship of the Boston Marine Industrial Park to other port facilities in the harbor. The Boston Harbor Associates intends to use the report data and analytical techniques to update their water-dependent use policy positions and to assist in specific project reviews.

The report also provides a discussion of emerging water dependent use issues including opportunities and areas of conflict within the context of harbor growth patterns and regulatory systems which are trying to keep pace. As the focus of the research has been on water dependent uses, the issues focus on preserving and enhancing a broad range of maritime activity and the future of the Port.

- Further planning tools are needed including an expanded information base to include the larger harbor, an economic analysis of water dependent uses, and a home base or clearing house for maintaining and dispensing the harbor data.

- A coalition of harbor users is needed to share information and work towards a policy consensus for the shared vision of the harbor's future.

- Land-use and water-use policy needs to serve statewide, harborwide, and neighborhood needs. The Port of Boston is a major regional economic resource while the harbor is a vastly underutilized regional recreational resource. Goals and policies for protecting and enhancing these fundamental opportunities at present appear to be either unclear, conflicting, or not operable.

- Waterfront land-banking has long been practiced by default in a dormant maritime economy. It now can provide an effective tool for keeping open future options for a broad range of maritime uses.

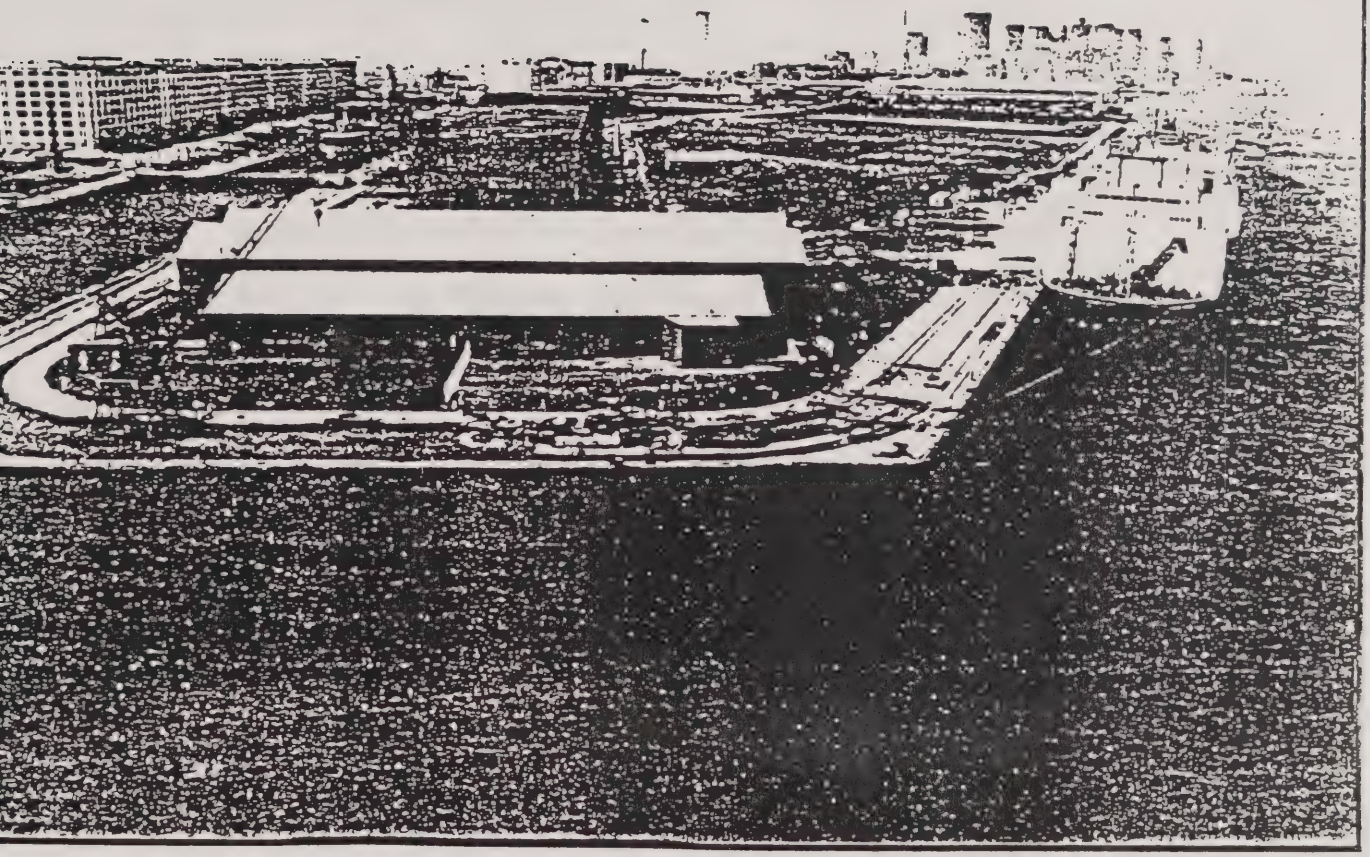
- The future of deep water shipping activity in the port seems to be the largest single question regarding land-use. The current port terminals represent enclaves for shipping businesses, and have limited growth capacity. Determining additional growth needs and a minimum critical mass for a healthy shipping industry are necessary for making informed choices of use for specific waterfront and backland parcels around the harbor.

- Multiple jurisdictions and overlapping review and regulatory procedures are common to many older port cities. To simplify and expedite positive waterfront development, new linkages or umbrellas need to be invented to coordinate conflicting state, harbor and neighborhood interests in waterfront development.

- Emerging new maritime industries such as water transportation, and ongoing shipping industries require appropriate levels of public support and protection such as Massport's operation of Port facilities. Choices of disposition of remaining publicly held land or pier facilities should carefully consider present and future port activities ahead of divestment of property for non-water dependent use.

The Boston Harbor is a unique resource with many distinct physical, geographical and activity traits. The data analysis has documented the rich maritime heritage, the current diversity of waterfront uses, and the evolving new uses of the harbor. While considerable area of shorefront has been removed from water dependent use in the inner harbor, there still remains an abundance of parcels with suitable characteristics to serve the future harbor needs. While the harbor can accomodate an increase in density of traditional and new maritime uses, along with emerging non-water dependent mixed uses, the issue of proportion arises. As the land becomes scarce, the choices become harder. This report begins the process of quantifying and qualifying choices for a balanced future of the harbor.

CHAPTER 2.0
CREATING A HARBOR DATA BANK



Boston Marine Industrial Park, South Boston

2.0 CREATING A HARBOR DATA BANK

2.1 SELECTING STUDY BOUNDARIES

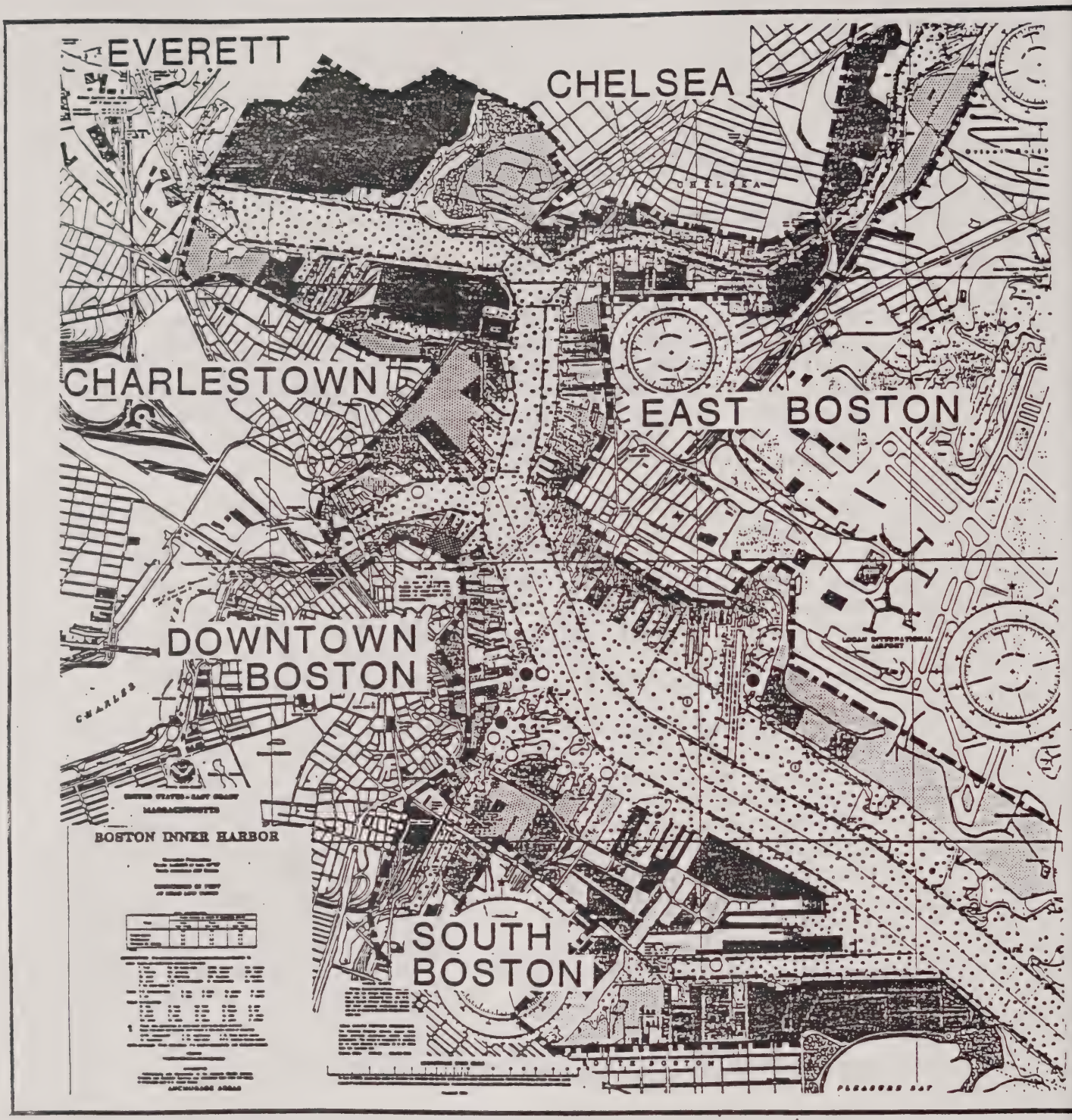
A primary purpose of the WDUS study was to inventory all information on the current conditions and uses in the harbor, and to create a new data base which provides information about land and water uses in a consistent, easily accessed format. In selecting the study area, it was decided by the study sponsors that the Inner Harbor was a clearly defined sub-area of the larger Boston Harbor, and represented a broad range of the use types and issues.

The study area chosen was largely coincidental with the Harborpark zone proposed by the Boston Redevelopment Authority. It also included most of Massport's seaport facilities, the primary terminals used by members of the Boston Shipping Association, the EDIC-operated Boston Marine Industrial Park, the CZM Designated Port Areas and many typical areas subject to Chapter 91 regulations and CZM planning.

The selected study area is shown in figure 2.1 The Inner Harbor is organized around the deep water shipping channels, all that remain of a much larger tidal estuary area which has been incrementally filled over the centuries. The inner harbor naturally divides itself into six discrete zones, each separated by channels or rivers. These zones also correspond to the waterfronts of distinct neighborhoods: South Boston, Downtown Boston, and the North End, Charlestown, Everett, Chelsea, and East Boston including the Logan South area of Logan Airport. The data base is divided into sections which correspond to these six geographical areas.

2.2 DOCUMENTATION OF LAND AND WATER USES

The first steps in setting up the harbor data base were to define the study area and types of information needed. The objective was to compile an inventory of all existing land and water uses on Boston's Inner Harbor, seaward of the first public way. In addition, parcel information was collected for selected backland areas functionally associated with particular waterfront land uses. This supplementary data was put into the "associated backland file".



BOSTON INNER HARBOR

Study Areas

Figure 2.1

Key

Study Area

Deep Water Channel

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TBHA WATER DEPENDENT USE STUDY

Defining "Landside" and "Waterside"

At the outset of the data collection process, an important distinction was made between landside and waterside uses. The definition of a landside or shore-based use was "any land, wharf, or pier use whose user is either the owner or a tenant on the parcel, whether the use is water dependent or not." The Aquarium is an example of a landside use. The definition of water-based use was "any use which uses the water and whose user owns or operates a vessel or floating property which may tie-up to a dock, pier, or wharf." The commuter boats which use Long and Rowes Wharves are examples of a water based use at those sites.

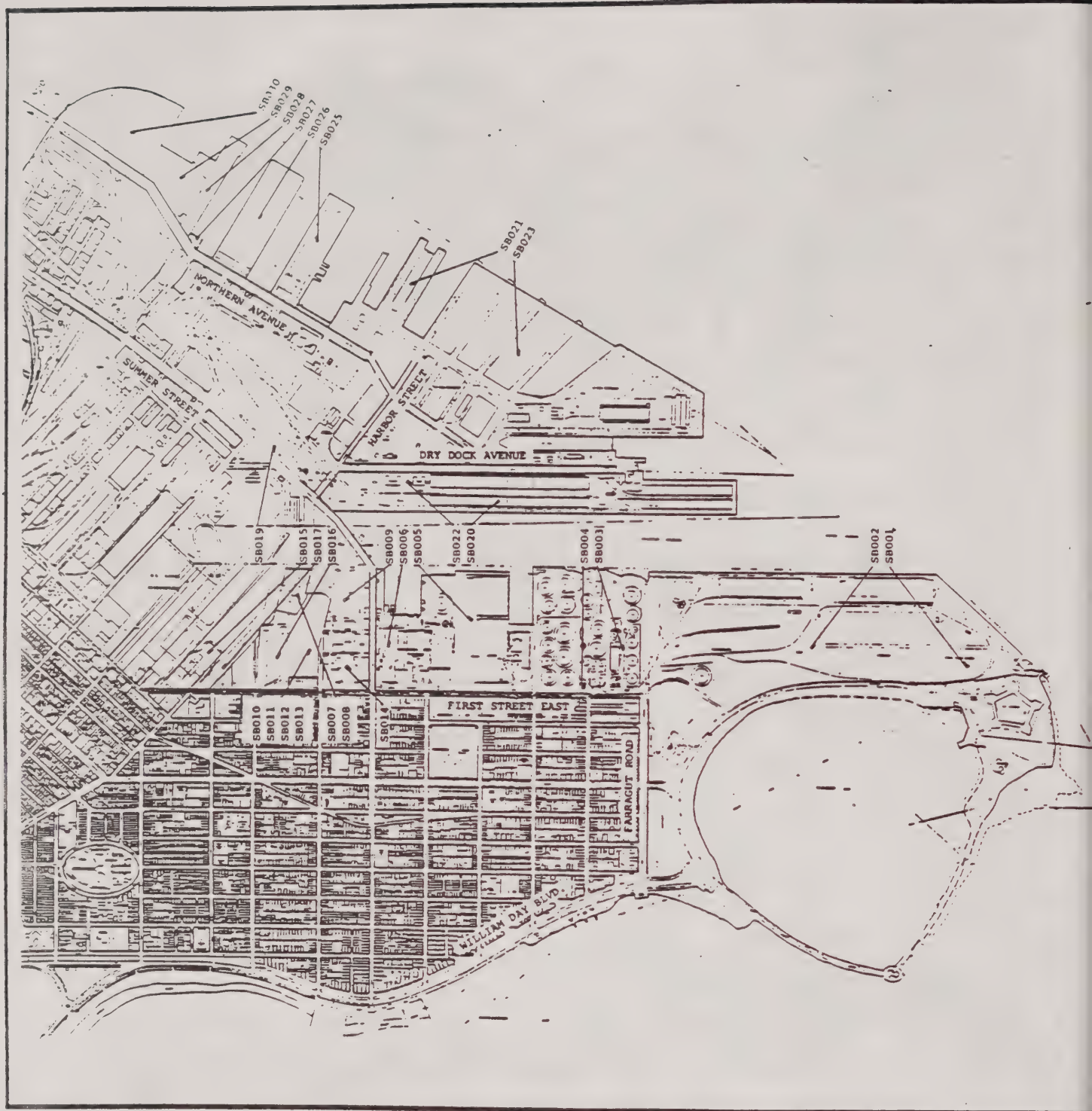
Collection and Analysis of Data

Creating the harbor data bank began with the collection and analysis of all available documentation on Boston's Inner Harbor, including current and historical maps, aerial photographs, and reports. The sources of this information included the state and the cities involved (Boston, Everett, Chelsea), regulatory agencies, and various private studies done by trade associations, environmental groups, universities and consulting firms. The written and printed material was supplemented by site visits and photographs of all of the areas in the Inner Harbor. The most useful data came from three sources:

1) the Boston Assessor's Office tax record data base
2) a document prepared the Army Corps of Engineers on all the working piers, wharves and docks in Boston Harbor
3) site visits to all the sectors and sites by land and by water

A bibliography of these resources as well as the more detailed descriptions of methodology, charts, and data base format are included in the supplement, Water-Dependent Use Report: Working Papers, Chapter 2.

Early in the data collection process it became evident that there was a gap in the data: there was very little information on waterside users. Questionnaires were sent to all known users. Cross-sections of these users were invited to meetings where information was verified and the data bank was discussed. While the data collected on waterborne businesses remains incomplete, the categories were established in the data bank for future additions.



SOUTH BOSTON
Database Parcel Map

Figure 2.2

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2.3 DATA BANK ORGANIZATION AND MAINTENANCE

The next step in assembling the data bank was to select a data base computer program capable of storing the data and allowing for easy retrieval and comparative analysis of stored information. The program selected was Data Ease, a database soft-ware system which could be used on the various computers operated by the sponsors, could be easily loaded and manipulated, and which would be straight-forward to operate and maintain by subsequent users once the data bank was established.

Data Ease is a relational database program and therefore allows the user to cross reference information in all of the fields and files. The parcel data is also recorded on a set of parcel maps by study sector included in Chapter 2 of the Working Papers. Examples of a parcel database printout and parcel map for South Boston are shown in figures 2.2 and 2.3. Other typical printouts are shown in the Working Papers, Chapter 2.2.

As the data was analyzed a pattern of four files and numerous related fields was identified as an initial storage framework.

Files	Fields
PARCEL FILE	Waterfront parcel identification number
	Land use and zoning
	Proposed uses
	Types of land, original and/or filled land
	Piers, wharves, docks, or moorings
	Public land and water access
	Acreage
	Square feet of buildings
	Condition of land and buildings
	Assessed land and building values
	Available utilities
	Chapter 91 information date
	Water depths
	Water dependent and non-water dependent uses
	Wave exposure
	Historical uses
	Environmental concerns
	Docking locations
	Boats
	No. of Vessels
	Barges
	No. of Barges
	Floats
	No. of Floats
	Other
	No. of Other
OWNER FILE	Waterfront parcel identification number
	Owner's identification number
	Owner's name
	Owner's address
USER FILE	Waterfront parcel identification number
	User identification number
	User's name
	User's address
	Whether a user is a tenant or a water-based user or both
	User's business
BACKLAND FILE	Waterfront parcel identification number
	Backland parcel identification number
	Address of backland parcel
	Uses of backland parcel
	Proposed uses of backland parcel
	Acreage of backland parcel

Owner No.	Parcel No.	Name	Address	City	State	Zip
SB00010	SB001pb	MassPort Authority	10 Park Plaza	Boston	MA	02110
SB00020	SB002pb	Massport Authority	10 Park Plaza	Boston	MA	02110
SB00030	SB003pr	Texaco Inc. Dev. Co.	Box 04582	Atlanta	GA	30302
SB00040	SB004pr	Texaco Inc. Dev. Co.	Box 04582	Atlanta	GA	30302
SB00050	SB005pb	Mass.Bay Transit Aut	10 Park Plaza	Boston	MA	02110
SB00060	SB006pr	Boston Edison	800 Boylston	Boston	MA	02199
SB00070	SB007pr	Barbara Murphy Trust	24 Federal Street	Boston	MA	02110
SB0008	SB008pr	John Sullivan Trust	530 East First St.	South Boston	MA	02127
SB0009	SB009pr	Boston Edison	800 Boylston Street	Boston	MA	02199
SB00100	SB010pr	Wm. F. Banfield Trus	530R East First St.	South Boston	MA	02127
SB00110	SB011pr	Wm. C. Casey Trust	480 East First St.	South Boston	MA	02127
SB00120	SB012pr	Gino Deacetis Trust	462 East First St.	South Boston	MA	02127
SB00130	SB013pr	Anna Federico Trust	460 East First St.	South Boston	MA	02127
SB00140	SB014pr	Casey & Hayes Movers	430 East First St.	South Boston	MA	02127
SB00150	SB015pr	Boston Harbor Ind.Co	649 Summer Street	Boston	MA	02210
SB00160	SB016pr	Casey & Hayes Movers	426 East First St.	South Boston	MA	02127
SB00170	SB017pr	Casey & Hayes Movers	426 East First St.	South Boston	MA	02127
SB00180	SB018pb	United States Gov.	525 East First St.	South Boston	MA	02127
SB00190	SB019pb	United States Gov.	525 East First St.	South Boston	MA	02127
SB00200	SB020pb	United States Gov.	666R Summer Street	South Boston	MA	02127
SB00210	SB021pb	DIC	38 Chauncy Street.	Boston	MA	02210
SB00220	SB022pb	EDIC	38 Chauncy Street	Boston	MA	02210
SB00230	SB023pb	EDIC	38 Chauncy Street	Boston	MA	02210
SB00240	SB024pb	MassPort Authority	10 Park Plaza	Boston	MA	02110
SB00250	SB025pb	MassPort Authority	10 Park Plaza	Boston	MA	02110
SB00260	SB026pb	MassPort Authority	10 Park Plaza	Boston	MA	02110
SB00270	SB027pr	Paul's Lobster	148 Northern Avenue	South Boston	MA	02127
SB00280	SB028pr	Anthony Athanas	140 Northern Avenue	South Boston	MA	02127
SB00290	SB029pr	Anthony Athanas	140 Northern Avenue	South Boston	MA	02127
SB00300	SB030pr	Anthony Athanas	140 Northern Avenue	South Boston	MA	02127

Parcel No.	Land Type	Max. Wave Exp.	Land Access	Water Access	Public Access
SB001pb	Wharf, Filled Land	Low 1.5'-3'	Street, Hwy, Rail	Wharf	Street
SB002pb	Wharf, Filled Land	Low 1.5'-3'	Street, Hwy, Rail	Wharf	Street
SB003pr	Wharf, Filled Land	Very Low 0'-1.5'	Street, Hwy	Wharf	Street
SB004pr	Wharf, Filled Land	Very Low 0'-1.5'	Street, Hwy	Wharf	Street
SB005pb	Wharf, Filled Land	Very Low 0'-1.5'	Street, Hwy	Wharf	Street
SB005pbS	Wharf, Filled Land	Very Low 0'-1.5'	Street, Hwy	Wharf	Street
SB006pr	Wharf, Filled Land	Very Low 0'-1.5'	Street, Hwy	Wharf	Street
SB007pr	Filled Land	Very Low 0'-1.5'	Street, Hwy	none	Street
SB008pr	Filled Land	Very Low 0'-1.5'	Street, Hwy	none	Street
SB009pr	Filled Land	Very Low 0'-1.5'	Street, Hwy	None	Street
SB010pr	Filled Land	Very Low 0'-1.5'	Street, Hwy	none	Street
SB011pr	Filled Land	Very Low 0'-1.5'	Street, Hwy	none	Street
SB012pr	Filled Land	Very Low 0'-1.5'	Street, Hwy	none	Street
SB013pr	Filled Land	Very Low 0'-1.5'	Street, Hwy	none	Street
SB014pr	Filled Land	Very Low 0'-1.5'	Street, Hwy	none	Street
SB015pr	Filled Land	Very Low 0'-1.5'	Street, Hwy	none	Street
SB016pr	Filled Land	Very Low 0'-1.5'	Street, Hwy	none	Street
SB017pr	Filled Land	Very Low 0'-1.5'	Street, Hwy	none	Street
SB019pb	Filled Land		Street, Hwy, PublicT	none	Street
SB020pb	Wharf, Filled Land	Very Low 0'-1.5'	Street,Hwy, PublicT,Rail	Wharf	Street
SB021pb	Filled Land,	Low 1.5'-3'	Street,Hwy,PublicT,Rail	Wharf	Street
SB022pb	Filled Land, Wharf	Low 1.5'-3'	Street, PublicT, Hwy	Wharf	Street
SB022pbS	Filled Land, Wharf	Low 1.5'-3'	Street, PublicT, Hwy	Wharf	Street
SB023pb	Filled Land, Wharf	Low 1.5'-3'	Street, PublicT,Hwy	Wharf	Street
SB024pb	Wharf, Filled Land	Low 1.5'-3'	Street, PublicT, Hwy	Wharf	Street
SB025pb	Pier	Low 1.5'-3'	Street, PublicT, Hwy	Pier	Street, Easement
SB026pb	Pier,	Low 1.5'-3'	Street, Hwy, PublicT,Rail	Pier	Street,Easement
SB026pbS	Pier,	Low 1.5'-3'	Street, Hwy, PublicT,Rail	Pier	Street,Easement
SB027pr	Filled Land, Wharf	Low 1.5'-3'	Street, PublicT, Hwy	Wharf	Street
SB028pr	Pier, Filled Land	Low 1.5'-3'	Street, PublicT, Hwy	Pier	Street, Restaurant
SB029pr	Filled Land, Wharf	Low 1.5'-3'	Street, Hwy, PublicT	Wharf	Street
SB029prS	Filled Land, Wharf	Low 1.5'-3'	Street, Hwy, PublicT	Wharf	Street
SB030pr	Filled Land, Wharf	Low 1.5'-3'	Street, PublicT, Hwy	Wharf, Dock	Street
SB030prS	Filled Land, Wharf	Low 1.5'-3'	Street, PublicT, Hwy	Wharf, Dock	Street

BOSTON HARBOR DATABASE

South Boston Parcels

Figure 2.3

TBHA WATER DEPENDENT USE STUDY

2.4 CURRENT LAND AND WATER USE PATTERNS

All of the parcel use data collected is summarized in a land-use map of the Inner Harbor. Figure 2.4 provides a generalized look at land and water use patterns by geographical area. Water dependent uses are keyed as maritime industrial, other water dependent or open space. Non-water dependent uses are keyed as public, private, or vacant/under-utilized. In addition, water transportation dock sites are keyed as commuter boat or excursion boat.

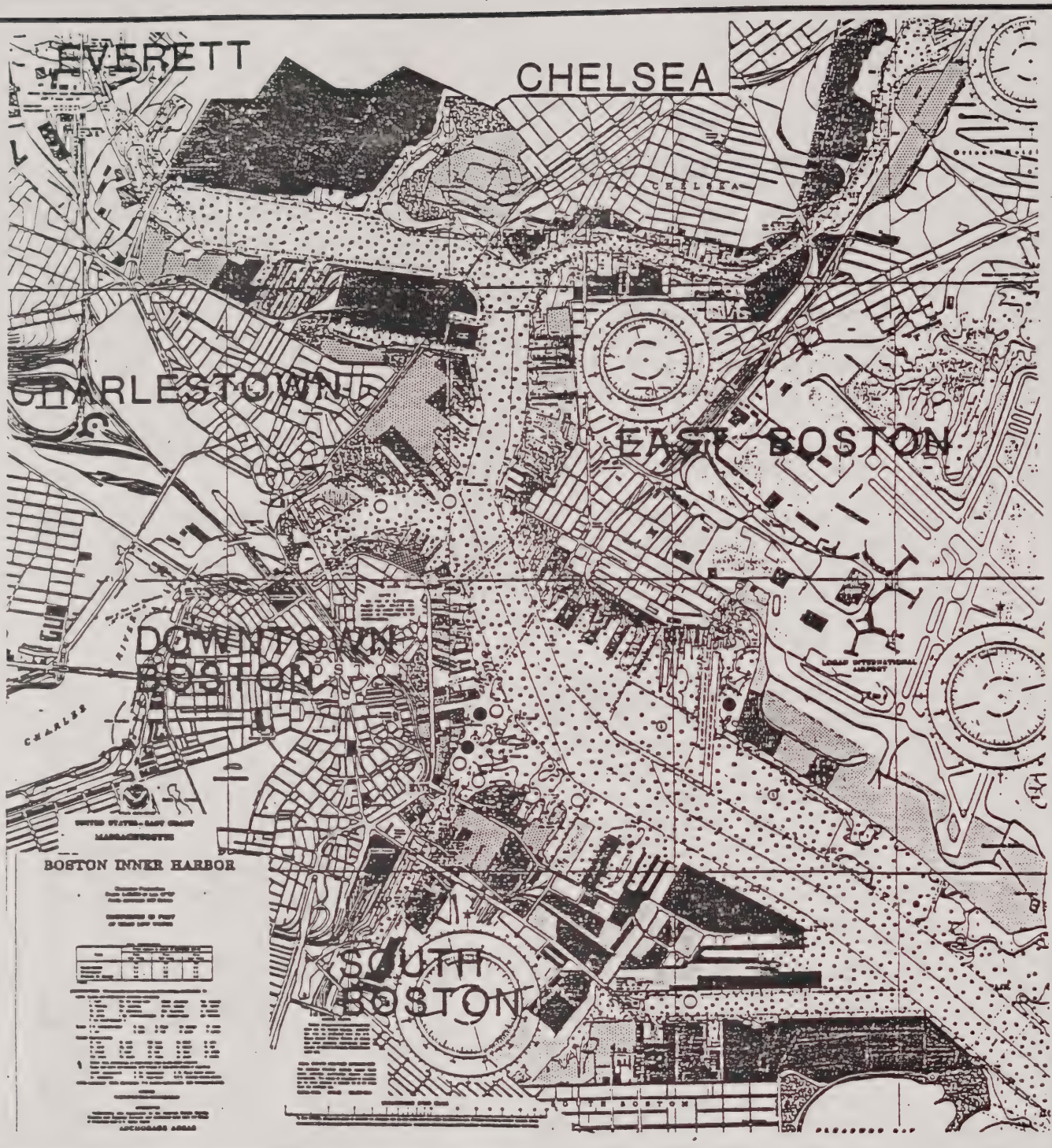
The individual study areas and their dominant patterns are described in the following paragraphs:

In South Boston, most of the waterfront land is publicly owned, with Massport, the City of Boston E.D.I.C. and the U.S. government holding the majority of waterfront property. Most of the land use on these parcels is maritime industrial, from container shipping to fish processing.

Although the Downtown and North End waterfront was once busy with shipping and fishing, it is now largely occupied by privately owned, mixed use residential and commercial developments. There are some exceptions; the Coast Guard base, the Aquarium, Waterfront Park and the Long Wharf boat terminal are all water dependent uses on the downtown waterfront. There are also marina facilities at various mixed use locations, including Harbor Towers and Lewis Wharf and a commuter boat terminal in construction at Rowes Wharf.

The Charlestown waterfront is divided into two sections. The area along the Mystic River is mostly maritime industrial or industrial land use. The Charlestown Navy Yard which fronts on the inner harbor is mixed use including some maritime uses such as a marina, a public landing, and the USS Constitution and its park. Moran Container Terminal, several Navy Yard piers, the National Park and the Constitution Museum are publicly owned, while most of the rest of the Charlestown waterfront is privately held.

The Everett waterfront contains less harbor frontage but more parcel depth than most of the other waterfront sectors. Almost all of the land use along the Everett waterfront is maritime industrial. These uses take up big tracts of land and include the Boston Edison Power Plant, petroleum companies, scrap metal and construction staging businesses, and seafood processing. All of the properties along the Everett waterfront are privately owned. Primary water based uses are the shipping and barge businesses which serve petroleum companies, scrap metal operations, construction staging, and seafood terminals.



BOSTON INNER HARBOR
Land Use by Parcel

Figure 2.4

Key

WATER DEPENDENT

- Maritime Industrial
- Other Water Dependent
- Designated Port Area
- Public Open Space

NON WATER DEPENDENT

- Public
- Private
- Vacant or Underutilized

WATER TRANSPORTATION

- Commuter Boats
- Excursion Boats

N

TBHA WATER DEPENDENT USE STUDY

At present, much of the Chelsea waterfront along Chelsea Creek is dominated by privately owned petroleum companies or other maritime industrial uses. However, Chelsea is proposing a rezoning of their waterfront from the Mystic Tobin Bridge to the City's northeast boundary. The area would be rezoned Residential and Light Industrial despite being largely a Designated Port Area and having significant environmental problems with the soil. There are some vacant parcels on the Chelsea waterfront and a large residential complex has been built on the site of the former Naval Hospital in Chelsea west of the Tobin Bridge. Currently, about sixty percent of the shipping activity in the Inner Harbor occurs in the Chelsea Creek and Everett shore.

The East Boston waterfront is quite extensive and is divided into 4 sections. The parcels along Chelsea Creek are mostly privately owned petroleum companies, with the exception of a few small boatyards located near the McArdle Bridge. The section that runs from the McArdle Bridge to the corner of New and Sumner Streets is residential, commercial, institutional and industrial with the exception of General Ship and the Boston Fuel and Transportation site, both of which are maritime industrial uses. This section is described in greater detail in Chapter 4 as a special study area.

The next section of the East Boston Waterfront, including The East Boston Piers, and Boston Ship, runs from New and Sumner Street to Jeffries Cove and is an area in transition. The final section of East Boston, Logan Airport's Bird Island Flats and southwestern bulkhead, is being developed as mixed use. Offices, hotels and air cargo facilities are being developed there.

Water-based uses in East Boston are numerous and varied. Chelsea Creek is used by ships serving the oil terminals. Tugs, vessels, pilots and barges are based in East Boston. Several small boatyards service both commercial and recreational vessels. Lobster fishing vessels moor at the Hines and Smart property as well as at others. Ferry services dock at Logan. Recreational craft moor and dock at various locations, and there are also several houseboats along the East Boston shore.

SUMMARY OF USE BY % OF WATERFRONTAGE

AREA	WATER DEPENDENT	NON-WATER DEPENDENT MIXED USE	NON-WATER DEPENDENT VACANT	TOTAL WATER-FRONT LENGTH	WATERFRONT % OF INNER HARBOR
South Boston (includes Castle Is.)	10.9 mi (73%)	2.1 mi (14%)	2.0 mi (13%)	15 mi	25%
Downtown Boston	2.7 mi (34%)	5.0 mi (62%)	.3 mi (4%)	8.0 mi	13%
Charlestown	4.9 mi (41%)	5.2 mi (44%)	1.8 mi (15%)	11.8 mi	20%
Everett	2.0 mi (77%)	---- (0%)	.6 mi (23%)	2.6 mi	4%
Chelsea	3.9 mi (76%)	.4 mi (8%)	.8 mi (16%)	5.1 mi	9%
East Boston (includes Logan west shore)	5.3 mi (30%)	6.3 mi (36%)	6.0 mi (34%)	17.6 mi	29%
	29.7 mi (49%)	19.0 mi (32%)	11.5 mi (19%)	60.1 mi	

BOSTON HARBOR DATA

Waterfrontage Use

TBHA WATER DEPENDENT USE STUDY

Figure 2.5

2.5 ISSUES CLARIFIED BY THE DATA BASE

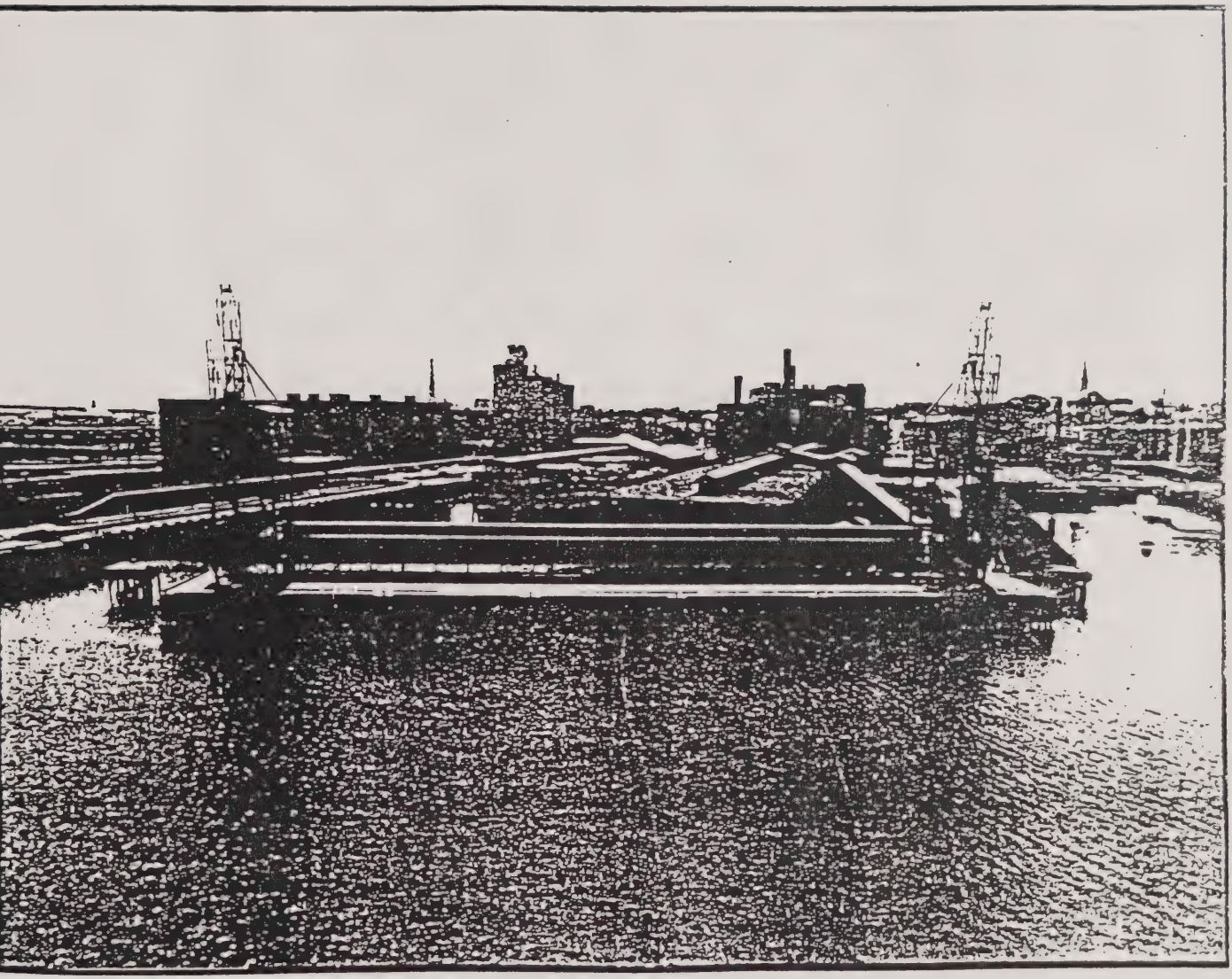
Waterfront land and harbor uses around the harbor have evolved considerably over the past thirty years. There has been an increasing amount of mixed use including residential, commercial, retail and public park space. The Downtown has largely been transformed from a working waterfront to a mixture of residential and office space, along with several remaining maritime activities. Charlestown and South Boston have both experienced major shifts as a result of the phasing out of the Navy and Army base operations. Chelsea and Everett remain largely industrial and serve much of the Harbor bulk shipping along their waterfronts. East Boston, with the longest waterfront of these inner harbor areas, has experienced a reduction in heavy shipping and ship-building, but retains many of the smaller maritime service operations, smaller boatyards and limited industrial uses.

The preceding chart (figure 2.5) tabulates current amounts of linear waterfront development by water dependent or non-water dependent use.

The data base has yielded other important insights into the evolving waterfront use patterns:

- A new waterfront land use-map (figure 2.4) has shown the dramatic change from predominantly maritime use to a mixture of activities around the inner harbor.
- Substantial portions of the waterfront are in public ownership by state and city and can be used in the best public interest regarding the future of the port.
- Pier and bulkhead conditions range widely. Many need repair or replacement to accommodate new existing uses.
- The six geographical areas of the Inner Harbor shore have distinct characters and uses which need to be considered in future planning. The six areas all contribute significant complimentary maritime activities to the seaport as a whole. Individual residential neighborhoods are vitally interested in the development of their own shorefronts.
- The maritime industrial activity along the Chelsea and Everett waterfronts plays a major role in the shipping industry in the port and those cities need to be included in any future planning of maritime uses and around the harbor.
- There is a limited supply of piers, wharves and various types of waterfront land parcels. These are expensive non-renewable resources.

CHAPTER 3.0
DEFINITIONS OF
WATER DEPENDENT USES



Revere Sugar, Charlestown

3.0 DEFINITIONS OF WATER DEPENDENT USE

3.1 EXPANDING CHAPTER 91 DEFINITIONS

The Need for a Common Set of Definitions

The question of what types of shorefront usage are water dependent has been debated long and hard. One hundred years ago when the waterfront was completely occupied with commerical maritime activities, there was no need to distinguish between water dependent and non-water dependent uses. More recently as an increasing number of maritime and non-water dependent uses go through the Chapter 91 licensing process, it becomes more important for all involved to agree on a common set of definitions and categories of usage. Such definitions are also essential for formulation of land use policy by the city and state.

Expanding Definitions from Chapter 91

In this study, the task of expanding and detailing water dependent use definitions was approached in three ways. First, the definitions and lists of use categories in the Chapter 91 legislation were evaluated and the public review proceedings which led up to the writing of the law were reviewed. Secondly, the findings on existing and anticipated land-use from the data base analysis were tabulated. The third step was the collection of detailed information on uses and functional characteristics through interviews and workshop meetings with waterfront users.

During the composing of the 1983 Chapter 91 Tidelands legislation, a great deal of effort was devoted to creating a set of definitions of water dependency which could be commonly accepted. The definition provided by Chapter 91 describes as water dependent "... those uses and facilities which require direct access to or location on coastal or inland waters and which therefore cannot be located away from said waters".

The study found that the use definition was appropriate as a fundamental statement of water dependency. While the list categories of water dependent use appeared to be correct as far as it went, the data base findings and interviews indicated that the list was not comprehensive enough. Additional categories should be added which fit within the qualifying definition, and sub-categories within a broad heading such as maritime industrial need to be made more explicit. In order to clarify the subcategories of uses it also seemed necessary to examine them in more detail regarding the characteristics of a particular use such as water transportation, and the site features needed to support such a use.

WATER DEPENDENT USES/
FUNCTIONAL CHARACTERISTICS

PRIMARY USE CATAGORY	SECONDARY USE EXAMPLES	LAND & PUBLIC ACCESS	WATER DEPTH & GEOPHYSICAL	UTILITIES & INFRASTRUCTURE	WATER ACCESS	RANK
Landside Uses						
1. Marine Industrial Heavy		H, R, S	DP, 6'-8' ME	W, S, G, E	P, W, B	
General Shipping				Crane		
Bulk Shipping Wet						
Bulk Shipping Dry						
Shipbuilding and Refitting				Drydock		
U.S. Coast Guard						
Sewage Treatment						
2. Marine Industrial Medium		H, (R), S	MD, 3' ME	W, S, G, E		
Fish Processing					(P), (B)	
Medium Boat Building				Crane, Drydock	W	
Marine Construction				Crane, Drydock	W	
3. Marine Industrial Light		S	MD, 3' ME	W, S, G, E	P, B, W	
Fishing & Lobstering						
Small Boat Repair & Construction						
4. Marine Support		S	MD, 3'ME	W, E	P, B	
Towing & Barges						
Pilots						
5. Marine Transportation			MD, 3'ME	W, E	P, B	
Commuter Boat Terminal		H, T, P, S				
Water Shuttle Terminal		P, T				
Excursion Boat Terminal		H, T, P, S				
Highways, Bridges, Tunnels						
6. Marine Public Safety		S	MD, 3'ME	W, E	P, W, B	
Fireboat						
Coast Guard						
Harbor Master						
NOAA						
Storm Outfalls			S			
7. Marine Recreational		S, T, P, W, BR	MD-S, 1/2'-1'MEW, E		P, W, B	
Marina Facilities			MD-S			
Public Parks			S			
Beach & Swimming			S			
8. Marine Educational/Cultural		S, T	(S-MD)	W, S, E	(P, B)	
Educational Institutions						
Cultural Institutions						
9. Interim Uses			MD, 3'ME		W, P	
Temporary Construction Staging - Public	Central Artery No.	H, S				
Temporary Construction Staging - Private	Rowes Wharf	H, S				
Special Recreation Event	Tall Ships	S, T				
Boat Storage (Seasonal)		S				
10. Future Uses						
Military (Navy etc.)		S	MD-DP	W, E	W, P	
Emerging Technology						
Transportation	3rd Harbor Tunnel	S, H	DP	S, E		
Harbor Clean-Up/ Waste Treatment		S, H	MD-DP	W, S, G, E	W, P	

BOSTON HARBOR DATA

Land-Based Water Dependent Uses

FIGURE 3.

TBHA WATER DEPENDENT USE STUDY

Expanding and amplifying water dependent use definitions within the context of Chapter 91 seemed appropriate for several reasons. Chapter 91 is presently the most effective and direct regulatory process for guiding waterfront uses on a haborwide and for that matter statewide basis. Building on its sound definitional framework was agreed to be most effective. As the initial regulations were formed it was made clear that they would require ongoing review and modification. The new definitions proposed by this report resulted from our review process and are recommended as modifications to the regulations.

The Two Components of Water Dependent Use Definitions: An Expanded Framework of Use Categories and Functional Use Characteristics:

The result of the research was the assembly of two closely linked working definitions of water dependent use:

1) an expanded hierarchy of use categories based on Chapter 91
2) detailed descriptions of the categories and sub-categories in terms of functional use characteristics.

The review of existing conditions of the harbor waterfront indicated that different water dependent uses require substantially different sites and that some uses have far more exacting requirements than others. For example, dry bulk shipping requires significantly different water depths, pier configurations, and access than a recreational marina or ferry terminal. By linking the use characteristics to the use categories, a clearer differentiation of water dependent uses could be attained. The tables could also be used to help in differentiating between waterfront sites as to their suitability for various uses.

The following sections of this chapter describe the expanded framework of water dependent uses, the functional use characteristics, and the possible implications for refinement of the Chapter 91 licensing process. Agreement on a common set of definitions for water dependent uses becomes increasingly important for formulation of land use policy as well as for effective licensing and regulation, as competition increases for the remaining parcels along the waterfront. The definitions presented by the study are included for further discussion, refinement, and updating by the state and city agencies. Siting decisions for both public and private waterfront development may be better informed with a clearer understanding of the hierarchy of needs for different types of harborfront uses, and the complete set of use characteristics which apply.

PRIMARY USE CATAGORY	SECONDARY USE EXAMPLES	LAND & PUBLIC ACCESS	WATER DEPTH & GEOPHYSICAL	UTILITIES & INFRASTRUCTURE	WATER ACCESS	RANK
Waterside Uses						
1. Maritime Industrial Heavy		H, R, S	DP, 6'-8'ME	W, E	P, W	
General Shipping						
Bulk Shipping Wet						
Bulk Shipping Dry						
Shipbuilding and Refitting						
U.S. Coast Guard						
2. Maritime Industrial Medium		S, W		W, G, E		
Boat Building & Repair			MD-DP	Drydock	W, P	
Fish Processing			(MD)		(P, B)	
Marine Construction			MD-DP		W, P	
3. Maritime Industrial Light		S	MD, 3'ME	W, G, E		
Fish & Lobster Piers					W, P, B	
Small Boat Repair				Drydock	W, P	
4. Marine Support		S	MD, 3'ME	W, E	P, B	
Towing & Barges						
Pilots						
5. Maritime Transportation						
Tour Ship Pier		S, T	MD, 3'ME	W, E	W, B	
Commuter Boat Docks			MD, 3'ME	W, E	P, B	
Water Shuttle Boat Docks			MD, 3'ME	W, E	P, B	
Excursion Boat Docks			MD, 3'ME	W, E	P, B	
Highways, Bridges, Tunnels						
6. Maritime Public Safety		S	MD, 3'ME		P, W, B	
Fireboats						
Coast Guard Piers						
Navigational Aids						
Harbor Master						
7. Maritime Recreational		S, T	MD-S, 1/2-1'ME	W, E	P, B, W	
Marina Docks & Moorings						
Public Landings		BR, W				
Boat Launches		BR, W				
Beaches & Parks						
8. Maritime Educational/ Cultural		S, T	S-MD, 1/2'-1'ME		P, B	
Boat Docks						
Floating Facilities						
9. Interim Uses		S	MD, 3'ME	W, E		
Moorings					W	
Temporary Docks					D, P	
Barge Storage					W, P	
Boat Storage					W, P	
Construction Staging		W			W, P	
10. Future Uses		S			W, P, B	
Construction Staging - Public		W, (R)	MD			
Construction Staging - Private		W, (R)	MD			
Military Docks, Piers			MD-DP			
Transportation			DP			
Aquaculture			S-MD			

BOSTON HARBOR DATA

Water-Based Water Dependent Uses

FIGURE 3

TBHA WATER DEPENDENT USE STUDY

3.2 A FRAMEWORK OF WATER DEPENDENT USE CATEGORIES

The framework of use categories was organized to distinguish use types by location and functional characteristic. A matrix (figures 3.1 and 3.2) was prepared to organize the categories and sub-categories of water dependent uses and relate them to a set of basic functional use characteristics.

To begin with, it seemed necessary to clearly differentiate water-based maritime uses from the land-based marine uses on which the licensing process focused. For example, shipping businesses, tour and ferry boat operations, public safety vessels, and recreational boating are waterborne businesses and are all subject to substantially different rules and regulations of harbor use when compared to the traditional property ownership pattern of land parcels which are subjected to city zoning, Chapter 91 and other regulatory actions. Figure 3.1 lists all categories of water dependent use which are land-based. Figure 3.2 is a parallel list of water-based or floating uses. The two lists are similar in their major categories, but differ in some of the sub-categories. For example the landside functional use characteristics place the operation facilities of cruise vessels in the maritime industrial category because of a requirement for deep water access, loading and unloading and other industrial scale support functions. From the waterside use point of view however, the cruise ship pier is classified under maritime transportation along with other excursion boat businesses.

The second organizing principle was the hierarchical order of uses according to their site requirements. A basic set of requirements was described for each use category including landside access, water depth and geophysical characteristics, utilities and infrastructure and waterside access. The categorical list is arranged to reflect steps of greater to lesser degree of site requirement. In other words, the requirements for deep water uses are considerably more complex and the site options more limited than for marine recreational uses.

Several important new categories of use emerged from the data bank which reflect historical changes in waterfront use. The maritime educational and cultural category (no. 8 in the matrix) has expanded considerably during the past two decades with such uses as the Aquarium, the Constitution Musuem, and the Tea Party Ship.

2.0 WATER DEPENDENT USE DEFINITIONS

2.2 FUNCTIONAL AND LOCATIONAL CHARACTERISTICS/LANDSIDE
2.215 Marine Transportation

	USE CATEGORY	EXAMPLES	DESCRIPTIONS & FUNCTIONAL CHARACTERISTICS	Primary Needs	Secondary Needs	Impacts/Compatibility
.2151	Commuter Vessels	Rowes Wharf Long Wharf	Commuter Boat Operations generally consist of a few early morning (6-9) runs & evening runs (3-6), 5 days a week. Small groups of people ride at any one time.	•Parking (at one end) •Highway or Road access •Medium Depth Water (8'-25'). •Shelter for Commuters.	•Public facilities •Boat Servicing area on site •Info./Ticket area. •Pier, Wharf or Dock to on & off Load.	- High Traffic through neighborhood. + Compatible with commercial areas.
.2152	Water Shuttle Terminal Service	Logan Ferry Pier	The water shuttle would carry small to medium size groups of to various cultural attractions & Logan Airport.	•Road Access •Public Transportation access •Shelter for Shuttle •Medium depth water (8' - 25'). •Pier, Wharf or Dock on & off load.	Public Facilities Info/Ticket area Boat Servicing Area on site.	- Some traffic through neighborhoods. with commercial areas + Compatible with commercial areas.
.2153	Excursion Vessels Terminal	Rowes Wharf Long Wharf have special cruises evenings & during the summer.	The excursion boats run through -out the day in the summer and There can be hundreds of people for a single cruise.			
	Service			Parking Highway, Road or PublicT Transportation access. Shelter for users Medium depth water (8'-25') Pier, Wharf or dock to on & off load Some utilities	Public Facilities Info/Ticket Boat Servicing Areas on site	Negative impact Residential areas because of crowds, especially on specialty cruises (Booze cruises, etc) + Compatible with commercial areas.
	Storage			Pier or Wharf Some buildings Some Utilities Security Medium depth water (8' - 25') Pier or Wharf		

Water Transportation: Landside

BOSTON HARBOR DATA

TYPICAL DEFINITION SHEET

TBHA WATER DEPENDENT USE STUDY

Figure 3.3

Another new set of uses are interim waterfront activities (no. 9) exemplified by construction staging, temporary commuter boat piers, and special fireworks or tall ships events. A third category needed for planning and land policy purposes is identification of future uses (no. 10) which are at various stages of commitment such as the third harbor tunnel and Mass. Water Resources Authority operations, or potential future needs such as Naval installations.

It is also important to note that both the lists of uses and their characteristics were derived specifically for the Boston Inner Harbor. Although they may be largely applicable to other ports, it is necessary to examine the specific uses and characteristics of each waterfront to properly reflect differing geographical, environmental and economic conditions. For example, shipping in Boston Harbor is limited by the depth of the main channel and other navigational characteristics which may be quite different in New York or New Bedford.

The use categories are also limited to current and projected water based activities rather than the full spectrum of possibilities. An expanded study which includes Boston's outer harbor might well add to the list of categories and possibly alter the priority of use charcteristics.

Key to Matrix Functional Use Characteristics:

(figure 3.1 and 3.2)

Land Access	Water Depth & Geophysical	Utilities & Infrastructure	Water Access
H = Highway	DP = deep 25'-38'	W = water	P = pier
S = Arterial Street	MD = medium 8'-25'	S = sewer	W = wharf
	S = shallow 4'-8'	G = gas	D = floating dock
R = Railroad	WE = wave exposure	E = electric	
(R) = potential Railroad			M = mooring
T = MBTA			
P = Parking			
W = Water Trans-portation			
BR = Boat Ramp			

COMPARISON OF WATER DEPENDENT FUNCTIONAL CHARACTERISTICS BY GEOGRAPHICAL AREA

Key: (X) Primary Use
X Secondary Use
Limited or No Use

LANDSIDE USES

Maritime Use Category	South Boston	Downtown Boston	Charles-town	Everett	Chelsea	East Boston
1. Industrial Heavy	(X)		(X)	(X)	(X)	X
2. Industrial Medium	X			X	X	(X)
3. Industrial Light	X	X	X		X	(X)
4. Support	X		X	X		(X)
5. Water Transpor-tation	X	(X)	X		X	X
6. Public Safety	X	(X)			X	
7. Recrea-tional	X	(X)	(X)		X	X
8. Educational Cultural	X	X	X			
9. Interim Uses	X		X		X	X
10. Future Uses	X				X	X

WATERSIDE USES

Maritime Use Category	South Boston	Downtown Boston	Charles-town	Everett	Chelsea	East Boston
1. Industrial Heavy	(X)		(X)	(X)	(X)	X
2. Industrial Medium	X			X	X	(X)
3. Industrial Light	X	X	X		X	(X)
4. Support	X		X			(X)
5. Water Transpor-tation	X	(X)	X			X
6. Public Safety		(X)	X			X
7. Recrea-tional	X	(X)	(X)		X	X
8. Educational Cultural	X	X	X			X
9. Interim Uses			X		X	X
10. Future Uses	X				X	X

BOSTON HARBOR DATA

Comparison of Characteristics by Area

TBHA WATER DEPENDENT USE STUDY

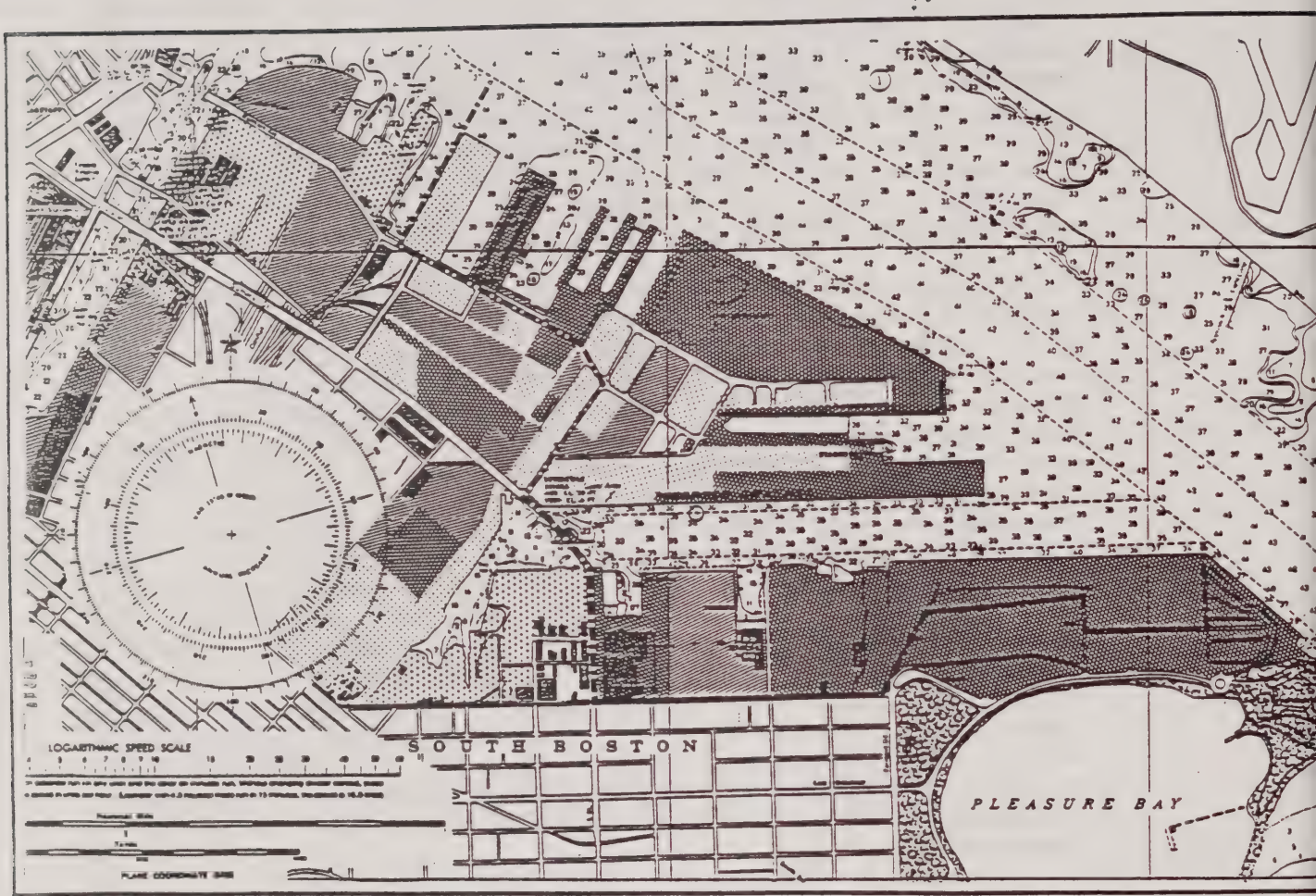
FIGURE 3.4

3.3 DETAILED FUNCTIONAL USE CHARACTERISTICS:

While the summary framework seemed to provide a useful overview and general hierarchy of water dependent uses for the inner harbor, it was not detailed enough to clearly distinguish between similar use types or site potentials. The next step was to provide more detailed descriptions of the uses and identify specific sets of site requirements. The functional and locational definition sheets were generated to assist in evaluation and selection of waterfront sites for specific uses. The complete set of definition sheets is found in section 3.2 of the working papers.

To illustrate the format, the definition sheet for landside maritime transportation uses is shown in figure 3.3. The description of a sub-category such as commuter vessel includes examples of current sites, and a capsule description of the operation of such vessels. The functional needs are described in terms of primary and secondary site characteristics which provide more detailed information and priority needs. In conclusion, the impacts of such uses and compatibility with other landside activities are described. In discussions with boat operators it was emphasized that not all types of vessels could comfortably berth at all piers or terminals. The charts are intended to provide a breakdown of fundamental differences in such requirements by distinguishing between commuter operations, watershuttle service, local excursion vessels and tour ship operations, all of which require different facility locations and packages. Similar treatments are given to other landside and waterside use categories.

It should be noted that as the uses evolve, as new technologies are introduced, and as new economic patterns occur, the definitions may change and need to be updated. For example, during the course of the study the harbor sewage treatment project (MWRA) was established and began its site planning. This led to a new set of use types which need definition and will begin to compete for waterfront sites in the near future. Such new uses should be defined and added to the framework and definitions as they emerge to keep and maintain a complete picture of the inner harbor. They can be included under sections on Interim Uses (9) and Future Uses (10).



SOUTH BOSTON
Existing Land Use - 1986

Figure 3.5

Key

WATER DEPENDENT
- Maritime Industrial
- Other Water Dependent
- Designated Port Area

NON WATER DEPENDENT
- Public
- Private
- Public Open Space
- Vacant or Underutilized

WATER TRANSPORTATION
- Commuter Boats
- Excursion Boats

N

TBHA WATER DEPENDENT USE STUDY

3.4 THE INNER HARBOR AS A WATER BASED COMMUNITY

Traditionally, the city and its neighborhoods are viewed from the land out to the water. An alternative view taken by the study is to regard the Inner Harbor as a different sort of community of water-based uses and look from the channel in to the land. The spectrum of waterfront uses around the whole shoreline constitute a total balance of water dependent uses at any point in time. The Chelsea and Everett shores play a key role in deep water shipping as do the Conley and Moran Terminals in South Boston and Charlestown. Taken together they comprise a set of commercial maritime services for the city and the region.

The view of the waterfront from each of the individual neighborhoods is quite different and encompasses only a fragment of the inner harbor. Each geographic area has a different history of maritime involvement and each occupies an important niche in the overall harbor. The water dependent use definitions and characteristics allow for a detailed assessment of the harbor edges by neighborhood. By summarizing the use patterns along the edges we see the shoreline from a different perspective. The preceding table (figure 3.4) compares the different sectors of the harbor by their dominant use patterns. Three categories of use are described for each segment:

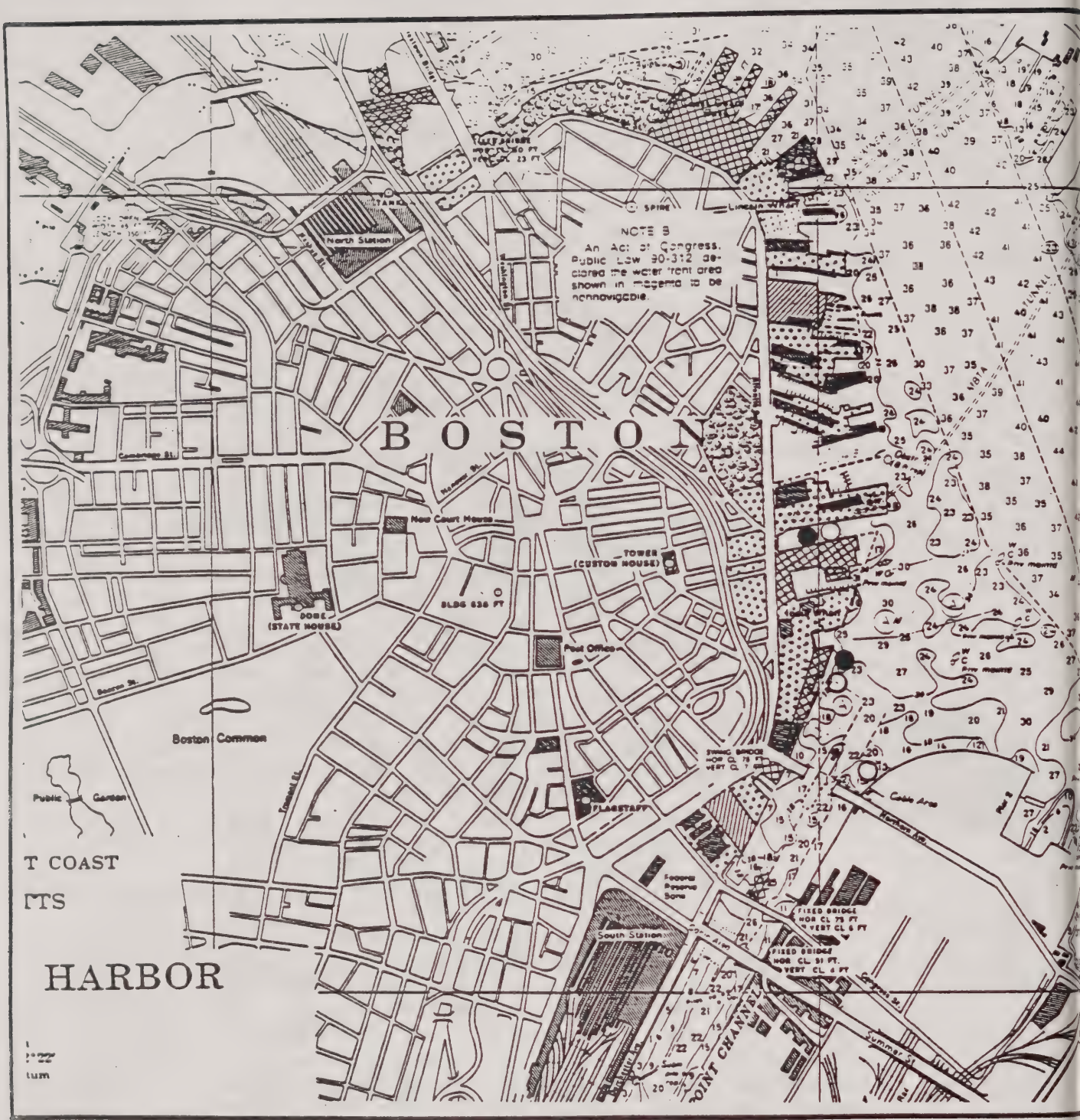
(X) Primary water dependent uses
X Secondary water dependent uses
-- Non-water dependent or mixed uses

More detailed descriptions of the six geographical areas are included to describe their dominant role in the harbor community and the site characteristics which may serve future water dependent uses. For each area the following information is provided: a map of existng land use patterns, descriptions of the dominant waterfront use pattern(s), site characteristics, other water dependent uses, and future use proposals. More detailed written descriptions are included in the working paper in section 3.3.

1. South Boston: (figure 3.5)

a. Dominant Character: largest maritime industrial area of inner harbor

- o includes Conley Terminal, Boston Marine Industrial Park
- o surrounding neighborhood is industrial (Commonwealth Flats) and residential (South Boston)



DOWNTOWN BOSTON
Existing Land Use - 1986

Figure 3.

Key

WATER DEPENDENT
- Maritime Industrial
- Other Water Dependent
- Designated Port Area

NON WATER DEPENDENT
- Public
- Private
- Public Open Space
- Vacant or Underutilized

WATER TRANSPORTATION
- Commuter Boats
- Excursion Boat

TBHA WATER DEPENDENT USE STUDY

b. Site Characteristics:

- o deep water access
- o large pier and wharf areas
- o container freight handling equipment
- o ample backland, though access is limited
- o highly protected water areas offering low wave and weather exposure (Reserved Channel and Fort Point Channel)

c. Other Water Dependent Uses:

- o marine transportation ferry and tour ship terminals
- o recreational resources (Castle Island)
- o Fish Pier and lobster piers

d. Future Uses

- o continued maritime development of BMIP and Conley
- o mixed use on Piers 1-5
- o Seaport access road and 3rd harbor tunnel as essential landside transportation projects

2. Downtown Boston and North End: (figure 3.6)

a. Dominant Character: mixed office, residential and retail use

- o divided into North End residential and downtown mixed use

b. Site Characteristics:

- o medium water depths
- o finger piers
- o docking opportunities

c. Water Dependent Uses:

- o key ferry terminals at Long and Rowes wharves
- o cultural and educational centers
- o public safety at Coast Guard base
- o recreational harborfront parks and marinas

d. Future Uses:

- o expanded shoreline parks
- o mixed use projects
- o Central Artery depression

3. Charlestown: (figure 3.7)

a. Dominant Character: maritime industrial and mixed use (Mystic River and Charlestown Navy Yard)

CHARLESTOWN
Existing Land Use - 1986

Figure 3.7

Key

WATER DEPENDENT

- Maritime Industrial
- Other Water Dependent
- Designated Port Area

NON WATER DEPENDENT

- Public
- Private
- Public Open Space
- Vacant or Underutilized

WATER TRANSPORTATION

- Commuter Boats
- Excursion Boats

N

TBHA WATER DEPENDENT USE STUDY

b. Site Characteristics:
   - o deep water access
   - o industrial infrastructure
   - o heavy pier and wharf structures
   - o medium and low wave and weather exposure

c. Other Water Dependent Uses: Constitution Museum and National Park, marinas

d. Future Uses: vacant sites along Mystic in Designated Port Areas, mixed use and Harborpark buildout of Navy Yard

4. Everett: (figure 3.8)

a. Dominant Character: Maritime industrial

b. Site Characteristics: deep water access, ample backland, utilities and infrastructure of petroleum tanks and cranes

c. Other Water Dependent Uses: none

d. Future Uses: more of the same, construction staging

5. Chelsea: (figure 3.9)

a. Dominant Character: Maritime industrial and mixed use

b. Site Characteristics: medium and deep water access, small piers, low wave and high wake, shoreline close to channel, limited access to Chelsea Creek by movable span bridge.

c. Other Water Dependent Uses: small boatyard, yacht club, waterfront park, marina.

d. Future Uses: residential mixed use near Mystic Bridge.

6. East Boston (figure 3.10)

a. Dominant Character: Maritime industrial and airport

b. Site Characteristics: largest waterport, divided into 4 areas, deep and medium water access, fair to good highway access, shipbuilding infrastructure

c. Other Water Dependent Uses: recreational waterfront, airport.

d. Future Uses: fish pier and park on E. Boston Piers, mixed use residential

EVERETT
Existing Land Use - 1986

Figure 3.8

Key

WATER DEPENDENT

- Maritime Industrial
- Other Water Dependent
- Designated Port Area

NON WATER DEPENDENT

- Public
- Private
- Public Open Space
- Vacant or Underutilized

WATER TRANSPORTATION

- Commuter Boats
- Excursion Boat

TBHA WATER DEPENDENT USE STUDY

3.5 CHAPTER 91: REFINING THE LICENSING PROCESS

During the period since 1983 when Chapter 91 became law, the licensing process for formerly filled tidelands has proven to be the most effective regulatory mechanism for guiding waterfront land use. With the recently enacted revised regulations in June of 1986, it promises to be even more effective in regulating land-use and safeguarding public benefits. However, there remain many questions from both the private and public sectors regarding its intent and application. There is also much interest in having Chapter 91 regulations demystified and procedures made more clear and efficient. The report has responded in part by providing a detailed set of definitions and use categories which should be helpful for applications.

Other issues regarding the rapidly increasing number of license applications were revealed during the interviews and research, and they provide a partial shopping list for ongoing refinement of the regulations and application process.

Clarification of the Chapter 91 Process: Boston water dependent and non-water dependent users need a concise description of what the Chapter 91 license process is, to whom it applies, and how to get a license. As new legislation and regulations are finalized they should be made available in both summary and legal form to the waterfront users. A handbook would be a useful format. There is also a need for a user assistance service to be provided by DEQE which could save time on the part of applicants. Cross references to local jurisdictional regulations would be a logical extention of the service to help expedite the over-lapping applications and reviews.

Definition of Public Benefit: One of the primary tasks of a mixed use non-water dependent project is proving that the public benefits outweigh public detriment. In projects such as Rowes Wharf a long process of negotiated programs and design resulted in a package of public benefits which included a ferry terminal, public waterfront walk, and framing of an important view corridor to the harbor. Several developers observed that a set of guidelines for public uses drawn up by DEQE and other review agencies would save time and simplify the license review procedures, as well as avoid duplication of the same public uses at different sites. Such guidelines could view the harbor as a whole and respect local planning needs to help tailor new projects to particular sites, while improving both the quality of designs and diversity of activities around the harborfront.

CHELSEA
Existing Land Use – 1986

Figure 3.9

Key

WATER DEPENDENT
- Maritime Industrial
- Other Water Dependent
- Designated Port Area

NON WATER DEPENDENT
- Public
- Private
- Public Open Space
- Vacant or Underutilized

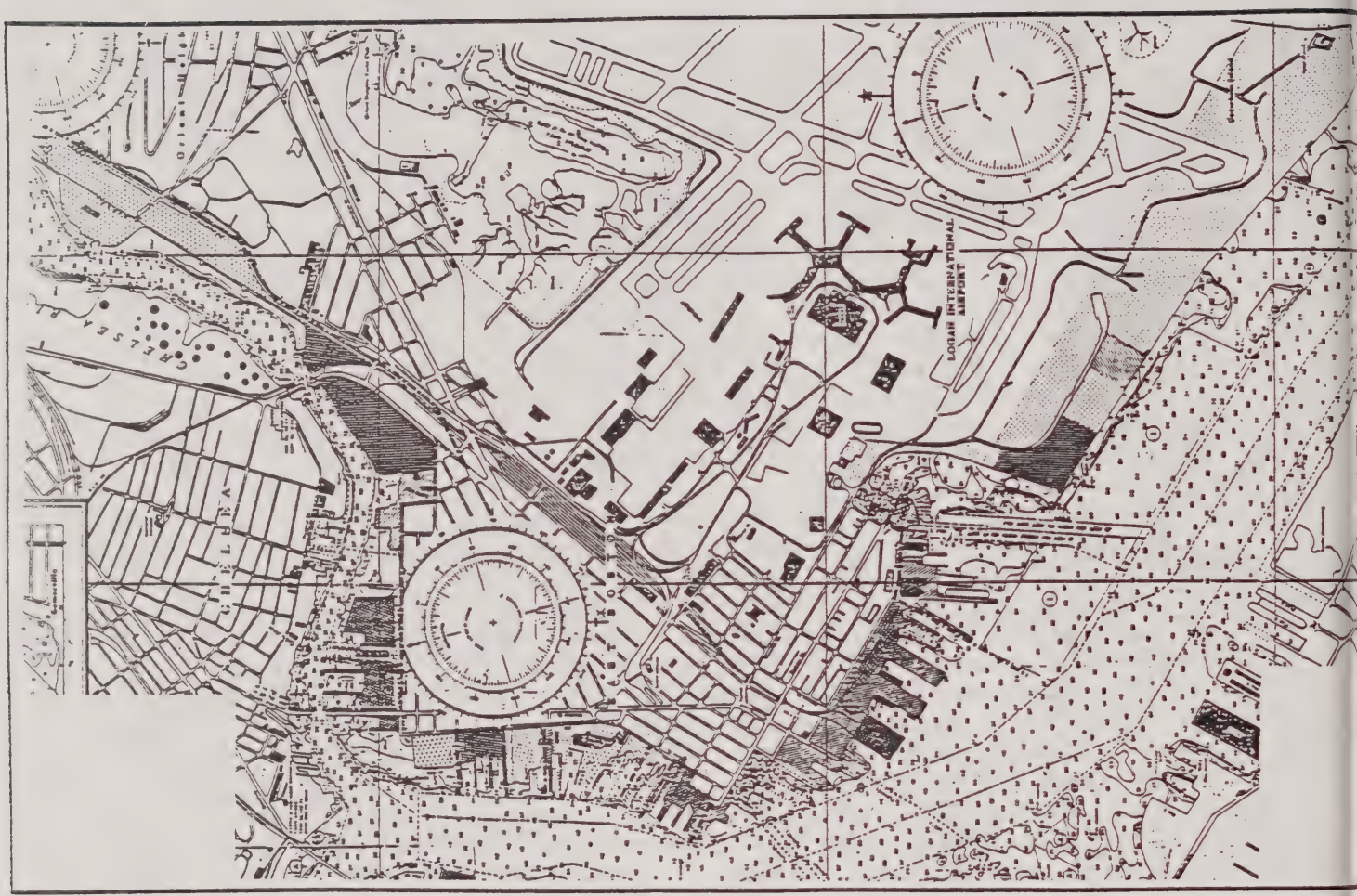
WATER TRANSPORTATION
- Commuter Boats
- Excursion Boats

N

TBHA WATER DEPENDENT USE STUDY

Associated Backland: Those areas needed for staging, storage, or other support functions for maritime uses on the waterfront which do not have adequate on site capacity for those uses are defined as associated backlands. The study indicates that such parcels to the west of Northern Avenue constitute backland for various shipping and fishing businesses in South Boston. The question arises as to whether those parcels on filled tideland are subject to Chapter 91 licensing. And, if so, under what circumstances might the regulations be invoked.

Exemptions from Chapter 91: In the inner harbor several sizeable parcels of publicly owned land have been effectively exempted from the Chapter 91 process during the past four years. Excluded are new projects which have been constructed or approved for the Charlestown Navy Yard, the Logan South or Bird Island Flats area of Logan Airport and sections of the Boston Marine Industrial Park. A consistent set of requirements should apply to all such properties, particularly when developed for non-water dependent uses. Lease agreements should also clearly reflect tenant responsibilities regarding changes of use. In order to help maritime uses to compete with non-maritime use at specific waterfront sites, it may be appropriate to consider additional incentives for developing appropriate maritime uses. Financial assistance in the form of subsidy, loans and/or tax abatement may be considered for development of special public properties. Linkage contributions from mixed use projects to support maritime uses might be possible for sites such as the East Boston Piers as a fulfilment of public benefit requirements. Other levels of incentive such as licensing assistance, technical planning and design, or other project expediting methods might be given on a priority basis to water dependent use proposals.



EAST BOSTON
Existing Land Use - 1986

Figure 3.10

Key

WATER DEPENDENT
- Maritime Industrial
- Other Water Dependent
- Designated Port Area

NON WATER DEPENDENT
- Public
- Private
- Public Open Space
- Vacant or Underutilized

WATER TRANSPORTATION
- Commuter Boats
- Excursion Boats

N

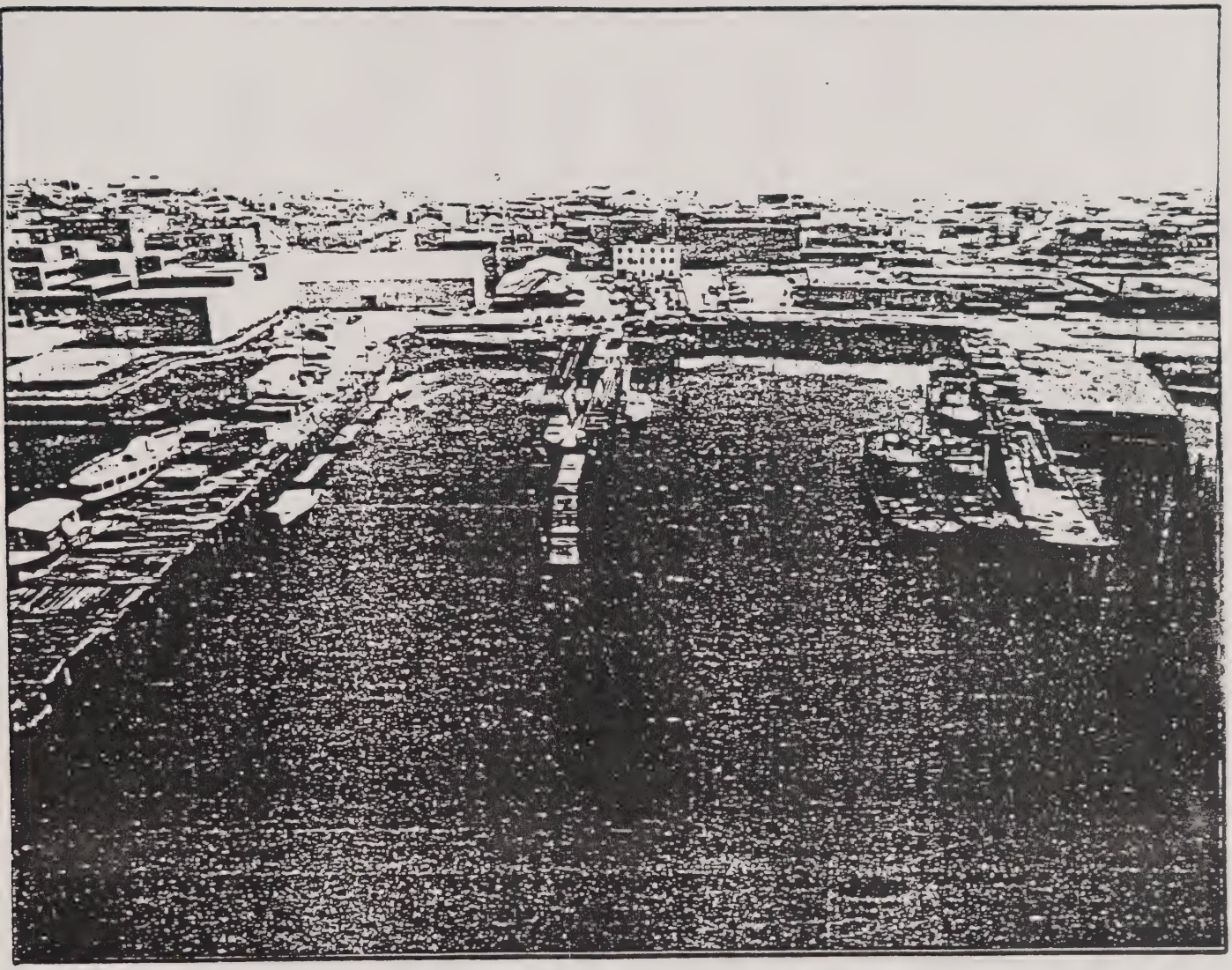
TBHA WATER DEPENDENT USE STUDY

3.6 SUMMARY OF WATER DEPENDENT USE ISSUES:

Just as the focus of Boston port activities and trade have shifted from century to century, the balance between maritime and non-water dependent uses is now in a state of transition. The present study of water dependent use definitions indicates that we need to consider a broader range of waterfront uses than were considered as legitimate maritime activities as recently as 10 years ago. By examining in more detail water dependent uses, the importance and value of existing maritime infrastructure becomes apparent. The value of a well built, deep water pier in good condition becomes apparent when one considers replacement cost or availability of location. The planned third harbor tunnel and seaport access road, as well as the harbor clean-up and sewage treatment facilities will have a dramatic effect on uses of the harbor and its shoreline. The Chapter 91 licensing process is an excellent regulatory tool which can be clarified and refined to meet emerging needs in the dynamic process of revitalization of the harbor.

The key guiding force towards a healthy harbor remains a commitment by public and private users to a balance of traditional maritime activities combined with new water dependent uses which depend on waterfront sites, and other mixes of commercial, residential and industrial uses which benefit from waterfront locations.

CHAPTER 4.0
NEW TECHNIQUES FOR EVALUATING WATERFRONT SITES



Liberty Plaza, East Boston

4.0 NEW TECHNIQUES FOR EVALUATING WATER FRONT SITES

4.1 ANALYTICAL METHODS AND APPLICATIONS

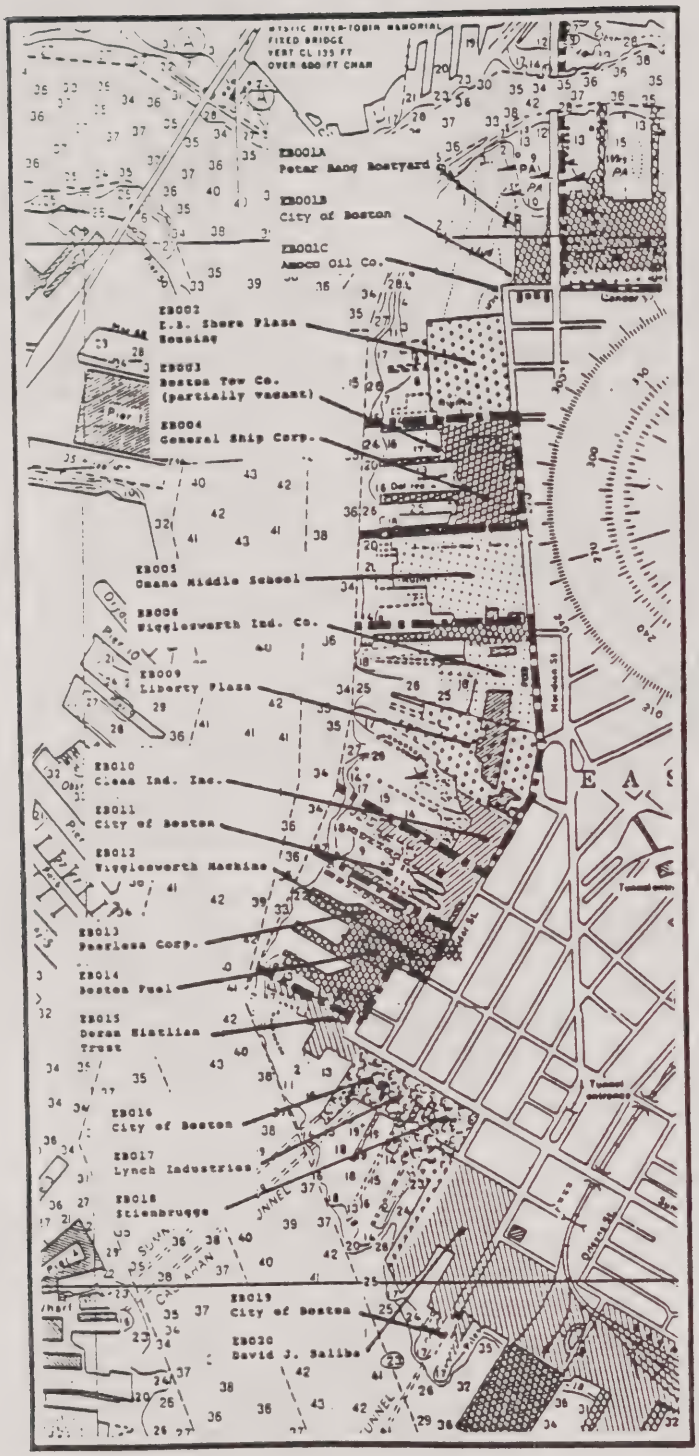
The database and water dependent use definitions that were developed in this study were organized so that they could be used in a variety of ways to evaluate and assess both land and waterside uses of the Boston inner harbor. In determining what might be useful manipulations of the data base for planning and development purposes, analytical techniques were identified which addressed the basic question of matching water dependent uses to specific waterfront sites. Two methods of evaluating sites were needed to study individual sites and harborwide site options.

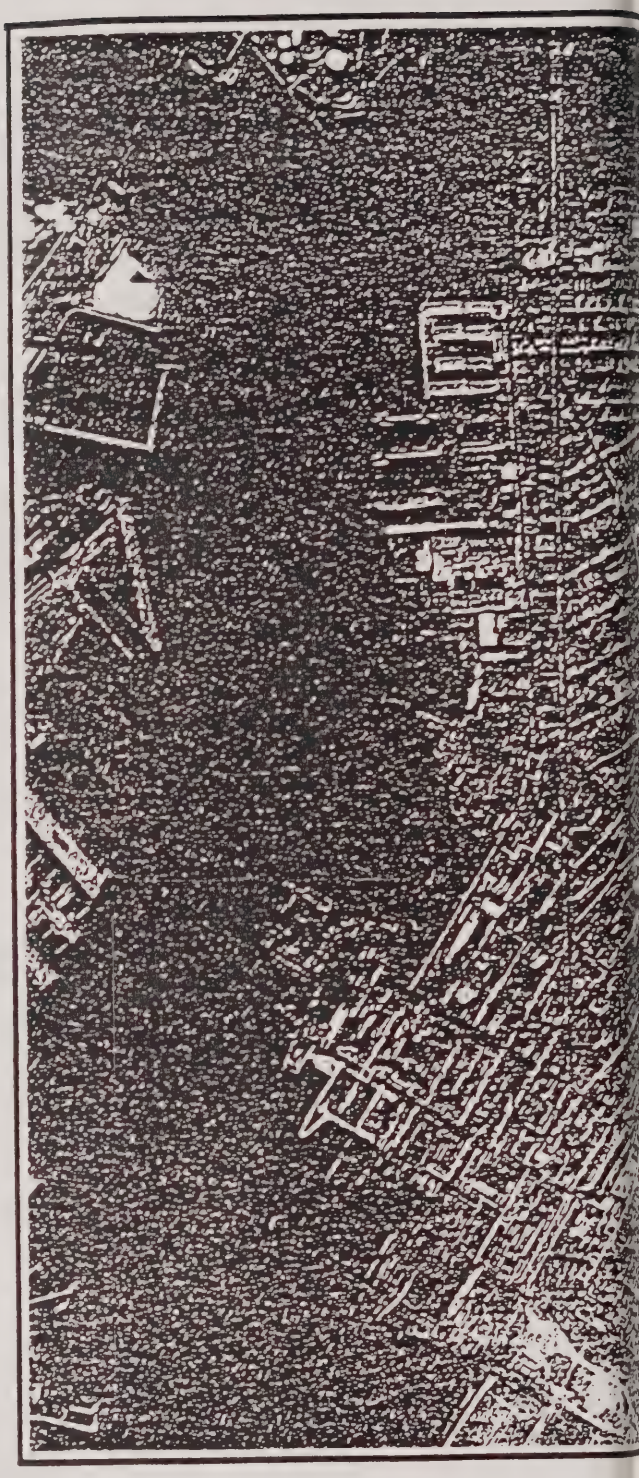
1. **Individual Waterfront Site Analysis:** To assess the suitability of a specific waterfront site (such as Revere Sugar in Charlestown) or group of related sites (such as a segment of the East Boston Piers) for expanded use or re-use for water dependent purposes as opposed to non-water dependent development.

2. **Harborwide Site Analysis:** To identify sites available on a harborwide basis for particular categories of water dependent use (such as heavy maritime industrial or water transportation) in order to assist in the siting or expansion of a certain use, or for comparison of various sites for suitability for competing uses.

The new methods of site evaluation were designed to be used in a variety of ways. The data base and water dependent use definitions are set-up to allow cross referencing according to functional characteristics of land or water parcels. If an individual site is to be assessed as to its suitability for water dependent uses, the data provided such as water depth, bulkhead conditions, and landside access can be compared to the definitions to determine which uses may be more or less compatible. Alternatively if a specific water dependent use is seeking a harbor site, the characteristics of that site can be listed and then compared with parcels in the data base to see what choices are available.

The two methods were applied to a specific area of the inner harbor, a segment of the East Boston shore, to test the methodology, the data bank, and examine a waterfront area in transition. The first case study was intended as a demonstration of the techniques and not intended as a proposed plan for the area.





EAST BOSTON - SPECIAL STUDY AREA

Existing Land Use - 1986

Figure 4.1

Key

WATER DEPENDENT

- Maritime Industrial
- Other Water Dependent
- Designated Port Area

NON WATER DEPENDENT

- Public
- Private
- Public Open Space
- Vacant or Underutilized

TBHA WATER DEPENDENT USE STUDY

In addition the study was asked to review and comment on Designated Port Areas by the sponsors. Several of the analytical techniques of the study were used to compare D.P.A. sites and help identify issues. The evaluation of D.P.A's resulted in preliminary findings for discussion purposes, and like the East Boston case study, was not intended as a recommended plan.

4.2 CASE STUDY: THE EAST BOSTON WATERFRONT/BORDER EAST

Site Selection:

Overall, East Boston presents one of the longest stretches of underutilized waterfront in the harbor. One segment, known as Border East, was selected because it represented a range of maritime and non water dependent uses; it contained issues of interest to the broadest range of sponsors and users; it encompassed several Designated Port Areas; and illustrated a range of Chapter 91 Licensing issues.

The Border East segment is a clearly defined section of East Boston stretching from McArdle Bridge on the north to the NDP II parcel near Maverick Square on the south, (figure 4.1). The study area is typical of many Inner Harbor areas which were once dominated by maritime uses. In this case the historic uses were predominantly the well known East Boston shipbuilding industry of the 19th and 20th centuries, but have evolved into a new mix of maritime and other activities.

Individual Site Analysis Methodology

Individual site or harborwide site analysis can be conducted either separately or in sequence. The following analytical technique is described as a series of research steps and is applicable to many harbor site conditions.

1. **Site Identification and Data Base:** Identify a particular site or sites and print out a data base for those sites

2. **Site History and Development Patterns:** Describe the historical evolution of the site, including its sequential land-uses, its relation to the economy of the harbor and the neighborhood, and predominant development patterns up to the present.

3. **Catalogue Functional Use Characteristics:** Including land use, land access, water depth, pier conditions, etc.

Parcel No.	Land/Water Parcel	Parcel Add.	Parcel City	Max. Wave Exp.	Land Use Exist.	Historic Use
EB001Apb	N/A	472 Meridian Street	East Boston	Low 1.5'-3'	V	
EB001Bpb	N/A	826 Border Street	East Boston	Low 1.5'-3'	V	
EB001Cpr		468 Meridian Street	East Boston	Low 1.5'-3'		
EB001pr	land	478 Meridian St.	East Boston	Low 1.5'-3'	MI	
EB002Apr	land	400 Border Street	East Boston		I	
EB002pr	land	408 Border St.	East Boston		RL	Lumber Pier,Warehouse
EB003pr	land/water	404 Border St.	East Boston	Low 1.5'-3'	V	Tow Boat
EB004pr	land/water	334,362,368,374 Border St.	East Boston	Low 1.5'-3'	MI	
EB005pb	land	310 Border St.	East Boston		INST	Old Munro Shipyard
EB006pr	land	246 Border St.	East Boston	Low 1.5'-3'	CO	Old Bromfield Shipyard
EB007pr	land	246 Border St.	East Boston	Low 1.5'-3'	I	Old Bromfield Shipyard
EB008pr	land	230 Border Street	East Boston	Low 1.5'-3'	CO	Old Bromfield Shipyard
EB009pr	land	178,184,220 Border St.	East Boston		CO	Old Bromfield Shipyard
EB010pr	land/water	160,170 Border St.	East Boston	Low 1.5'-3'	MI	
EB011pb		130,120,102 Border St.	East Boston	Low 1.5'-3'	V	Coal Wharf
EB012pr	land/water	80 Border St.	East Boston	Low 1.5'-3'	I	Atlantic Yard
EB013Apr	land/water	40 New Street	East Boston	Low 1.5'-3'	I	
EB013pr	land	60 Border St.	East Boston	Low 1.5'-3'	I	Atlantic Yard
EB014pr	land/water	34 New Street	East Boston	Low 1.5'-3'	MI	
EB015pr	land	2,4,6, New Street	East Boston	Low 1.5'-3'	V	General Seafoods Pier
EB015prS	land	2,4,6, New Street	East Boston	Low 1.5'-3'	CO	General Seafoods Pier
EB016pb	land	37 Sumner St.	East Boston	Low 1.5'-3'	MRP	
EB017pr		99 Sumner Street	East Boston	Low 1.5'-3'	I	Hodge Boiler Works
EB018pr		111 Sumner Street	East Boston		V	
EB019pb		66.67 Lewis Street	East Boston		MPS	
EB020pr	water	25,65 Lewis Street	East Boston	Low 1.5'-3'	V	1Ferry Pier,2Restaurant
EB020prS	water	25,65 Lewis Street	East Boston	Low 1.5'-3'	MI	1Ferry Pier,2Restaurant

Parcel No.	Land Use Prop.	Env. Concern	Land Type	Land Access	Water Access
EB001Apb			Original Land	Street, PublicT, Hwy	none
EB001Bpb	none	none	Submerged	Street, Hwy	none
EB001Cpr			Original Land	Street, Hwy	none
EB001pr			Pier, Filled Land	Street, Hwy	Pier
EB002Apr	none		Filled Land	Street, Hwy	none
EB002pr			Filled Land	Street,PublicT,Hwy	none
EB003pr			Pier, Filled Land	Street,Hwy,PublicT	Pier
EB004pr			Pier, Filled Land	Street, Hwy, PublicT	Pier
EB005pb	none		Filled Land	Street,PublicT,Hwy	none
EB006pr	I		Pier,Filled Land	Street,Hwy,PublicT	Pier
EB007pr			Pier, Filled Land	Street,PublicT,Hwy	Pier
EB008pr			Pier,Filled Land	Street,Hwy,PublicT	Pier
EB009pr	none		Filled Land	Street,PublicT,Hwy	none
EB010pr			Filled Land	Street,PublicT,Hwy	none
EB011pb	RL		Pier, Filled Land, Wharf	Street,PublicT,Hwy	Pier
EB012pr	none		Filled Land	Street,Hwy,PublicT	none
EB013Apr	none		Filled Land,Pier	Hwy, Street	Pier
EB013pr	none		Filled Land	Street,Hwy,PublicT	none
EB014pr	none		Pier, Filled Land	Street,Hwy,PublicT	Pier
EB015pr			Pier, Filled Land	Street,PublicT	Pier
EB015prS			Pier, Filled Land	Street,PublicT	Pier
EB016pb	none		Filled Land, Piers	Street,PublicT	Pier
EB017pr			Filled Land, Pier	Street, PublicT	Pier
EB018pr	RL?		Filled Land	Street, PublicT	none
EB019pb	?		Pier, Filled Land	Street, PublicT	Pier
EB020pr	RL/UM		Filled Land, Pier	Street, PublicT, Rail	Pier
EB020prS	RL/UM		Filled Land, Pier	Street, PublicT, Rail	Pier

BOSTON HARBOR DATABASE

East Boston Study Area

FIGURE 4.2

TBHA WATER DEPENDENT USE STUDY

4. Site Context Analysis: Document other characteristics of the site area including adjacent waterfront uses, and other neighborhood characteristics.

5. Regulatory Requirements: Identify all City, State and Federal regulatory procedures and limitations on the site including Chapter 91 licensing, Designated Port Area status, zoning, environmental limitations, and/or deed restrictions.

6. Water Dependent Use Suitability: Match the above findings with two sets of water dependent use characteristics: 1) uses currently seeking inner harbor sites, 2) uses not currently seeking sites but suitable for the study site.

Individual Site Analysis: East Boston Application

The next step is to apply the individual site evaluation method to the East Boston waterfront. In order to test the technique on this segment of shore, it is necessary to hypothesize competition for specific sites by water dependent and non-water dependent uses. The proposed use of several sites along Border Street for housing by developers provides a non-water dependent scenario. In order to identify a water dependent use alternative, a search for uses which match the site characteristics is necessary.

1. Site Identification and Data Base: This site was selected as described in the introduction, to represent a broad array of issues. The site parcel and land-use map is shown in figure 4.1 along with an aerial photo of the same zone. Border Street is the first public way. Three non-contiguous zones were assigned as Designated Port Areas. The data base printout for the site is shown in figure 4.2.

   The more specific parcels being tested include the area extending from the Wigglesworth property next to the Umana School (Parcel EB 007) to the Deran property (Parcel EB 015). It should be noted that substantial portions of this waterfront zone are Designated Port Areas as shown in the site map.

2. Site History and Development Pattern: Historically much of the western shore of East Boston was created as a result of sequential limited filling of tidelands as the shipbuilding businesses expanded toward the channel. The predominant use was shipbuilding and support functions along with other maritime industrial businesses, most of which have been replaced by other uses.

Historic Uses: The site of the housing complex at 408 Border Street was formerly the Lumber Pier and Warehouse. The Boston Tow Boat Company has occupied the 404 Border Street site continuously as a primary harbor tug and tow operation. The Umana School site was occupied by the Munro Shipyard. Liberty Plaza was built on the site of the old Bromfield shipyard. The coal wharf once projected into the harbor at 150 and 120 Border Street. The Atlantic Yard once flourished at the Wigglesworth Machine and Peerless sites. The General Seafoods Pier once occupied buildings and wharves at the corner of Sumner and New Streets, but is currently only partially occupied by storage uses. The Hodge Boiler Works continues to operate at 99 Sumner Street. And finally at the foot of Maverick Square, the site of the East Boston/Downtown ferries operated until the terminal became obsolete with construction of the Callahan and O'Brien tunnels. The site was later occupied by a large restaurant at 25/65 Lewis Street which burned down in the 70's.

Current Uses: The current land uses in the study area are varied. The data base (figure 4.2) lists the parcels and their uses. The shore includes a mixture of alternating water dependent and non-water dependent uses. There are three Designated Port Areas along Border Street separated by Umana School and a vacant parcel formerly the coal wharf, owned by the City, and known as Border East.

The current water dependent uses include a number of light industrial type businesses which have historically supported the shipping activities in the port. Shipyards and repair facilities utilizing older piers and former shipyards include General Ship and Peter Bang Boatyard. The area has traditionally provided docks for tugboats used for a variety of towing activities. Since Boston Tow recently went out of business, Boston Fuel and Transportation acquired their fleet and property, and operates as the primary harbor tug service. These businesses are long term occupants and pose no unusual or new impacts on the neighboring residential community. Their backland requirements appear to be minimal. Landside access needs are satisfied by Border, Meridian and Sumner Streets. An environmental cleanup business, Clean Industries, may be marginally considered a water dependent use because of some maritime activity. The little used North Ferry Park at the end of Sumner Street provides a unique public waterfront park on a corner site with great exposure to the upper Harbor, but is in great need of bulkhead reconstruction, repair, and maintenance.

Non-water dependent uses have replaced several shipyard activities over the past twenty-five years. East Boston Shore Plaza is a public housing project with harbor views built on piers. The Umana School is a public middle school. Liberty Plaza provides East Boston's primary shopping mall facing on Central Square, and unceremoniously turns its back on the harbor, while it shorefront is used for storage. Several light industrial uses remain along Border Street including Peerless and Wiggleworth.

Vacant parcels include the City owned coal wharf parcel at Border and Decatur, the Steinbrugge property at 111 Sumner, and the former ferry pier property near Maverick Square. In addition there are several small "remnant" parcels, some of which are submerged at such locations as 472 Meridian and 426 Border Street near the McArdle Bridge.

Partially occupied or underutilized properties include the back of the Liberty Plaza property on the water's edge, and the Deran Huntlian property on New Street. Many other parcels are currently underutilized when compared to the original density of activity found during the shipbuilding era, or to characteristics of other sectors of the harborfront.

Proposals for new uses are at various stages of design, submission and approval. The Ferry Pier is the proposed site for 350-400 units of medium density housing with water transportation facilities. The project is committed but not yet in construction. The developer retains options for future expansion to the adjacent sites. At the Coal Wharf site a developer has made an unsolicited proposal for 65 units of housing on the City owned land known as Border East.

3. Functional Use Characteristics: While each of the parcels varies somewhat in terms of present use and conditions, there are certain commonalities. The water depth is medium, road access is limited to arterial streets with no rail service, site depth is limited, existing infrastructure is minimal and utilities are adequate but of limited capacity. Current land-use includes a primary harbor barge company, General Ship, Boston Fuel, and several smaller industrial uses, as well as vacant property. Pier and wharf conditions vary from stable to dilapidated and current waterside access varies accordingly. Substantial portions of the sites are other vacant or largely underutilized. Most all sites have good channel access and relatively low wave exposure.

D.P.A. CHARACTERISTICS

	Parcel Add.	Parcel City	Historic Use	Acreage	Water Depth	Max. Wave Exp.
•	4/4 Border St.	East Boston	Tow Boat	5.27	Medium = 8'-24'	Low 1.5'-3'
	324,342,368,374 Border St.	East Boston		6.80	Medium = 8'-24'	Low 1.5'-3'
•	244 Border St.	East Boston	Old Bromfield Shipyard	3.24	Medium = 8'-24'	Low 1.5'-3'
•	244 Border St.	East Boston	Old Bromfield Shipyard	2.84	Medium = 8'-24'	Low 1.5'-3'
•	220 Border Street	East Boston	Old Bromfield Shipyard	6.14	Medium = 8'-24'	Low 1.5'-3'
•	178,184,220 Border St.	East Boston	Old Bromfield Shipyard	6.32		
	80 Border St.	East Boston	Atlantic Yard	0.51		Low 1.5'-3'
•	60 Border St.	East Boston	Atlantic Yard	1.20		Low 1.5'-3'
•	34 New Street	East Boston		1.12	Medium = 8'-24'	Low 1.5'-3'
•	40 New Street	East Boston		4.32	Medium = 8'-24'	Low 1.5'-3'
	400 Border Street	East Boston		1.85	Medium = 8'-24'	
•	229,233,279,287 Marginal St.	East Boston	Tringali Boatyard	17.08	Medium = 8'-24'	Low 1.5'-3'
•	299,311,323,327,333 Marginal	East Boston	Tringali Boatyard	4.60	Shallow = 2'-7'	Low 1.5'-3'
•	810 Chelsea Street	East Boston		0.16	Medium = 8'-24'	Very Low 0'-1.5'
	460,570 Chelsea Street	East Boston		22.24	Deep = 25'	Very Low 0'-1.5'
	370 E. Eagle Street	East Boston		1.93	Shallow = 2'-7'	Very Low 0'-1.5'
	328 E. Eagle Street	East Boston		6.67	Shallow = 2'-7'	Very Low 0'-1.5'
	320 Condor Street	East Boston		0.97	Shallow = 2'-7'	Very Low 0'-1.5'
•	300 Condor Street	East Boston	Sand & Gravel Yard	4.04	Medium = 8'-24'	Very Low 0'-1.5'
	200 Condor Street	East Boston		2.50	Shallow = 2'-7'	Very Low 0'-1.5'
	192 Condor Street	East Boston		6.04	Shallow = 2'-7'	Very Low 0'-1.5'
	178 Condor Street	East Boston		0.30	Shallow = 2'-7'	Very Low 0'-1.5'
	174 Condor Street	East Boston		2.41	Shallow = 2'-7'	Very Low 0'-1.5'
	172,146,142 Condor Street	East Boston		8.33	Deep = 25'	Very Low 0'-1.5'
	120 Condor Street	East Boston		1.52	Shallow = 2'-7'	Very Low 0'-1.5'
	130 Condor Street	East Boston		0.91	Shallow = 2'-7'	Very Low 0'-1.5'
	102 Condor Street	East Boston		1.44	Shallow = 2'-7'	Very Low 0'-1.5'
	98 Condor Street	East Boston		3.11	Shallow = 2'-7'	Very Low 0'-1.5'
	98 Condor Street	East Boston		0.28		
•	96,94 Condor Street	East Boston		4.47	Medium = 8'-24'	Very Low 0'-1.5'
•	34 May Street	East Boston		0.96	Medium = 8'-24'	Very Low 0'-1.5'
•	66 Condor Street	East Boston		0.42	Medium = 8'-24'	Very Low 0'-1.5'
•	22, 32 May Street	East Boston		5.24	Medium = 8'-24'	Very Low 0'-1.5'
	30 Condor Street	East Boston		0.45		
	479 Meridian Street	East Boston		3.40	Shallow = 2'-7'	Very Low 0'-1.5'
	Conley Terminal, Castle Island	South Boston	Shipping	42.50	Deep = 35'	Low 1.5'-3'
	900 East First Street	South Boston		29.69	Deep = 25'	Very Low 0'-1.5'
	722 East First Street	South Boston		0.02	Medium = 8'-24'	Very Low 0'-1.5'
•	680 East First Street	South Boston		12.96	Medium = 8'-24'	Very Low 0'-1.5'
•	658 East First Street	South Boston		24.19	Medium = 8'-24'	Very Low 0'-1.5'
•	666A Summer Street	South Boston	Army Base	31.75	Deep = 35'	Very Low 0'-1.5'
	310 Northern Avenue	South Boston	Shipping	23.67	Deep = 35'	Low 1.5'-3'
	666 Summer Street	South Boston	Ship Repair etc.	116.87	Deep = 35'	Low 1.5'-3'
•	640 Summer Street	South Boston	NSMC	47.00	Deep = 35'	Low 1.5'-3'
•	660 Summer Street	South Boston	Army Base	17.50	Deep = 35'	Low 1.5'-3'
	Boston Fish Pier	South Boston	Fish Pier	8.52	Medium = 8'-24'	Low 1.5'-3'
	162 Northern Ave.	South Boston	Shipping, Warehouse	8.23	Deep = 35'	Low 1.5'-3'
	3 Broadway Street	Chelsea		12.00	Deep = 25'	Low 1.5'-3'
•	37-39 Winnisimmet Avenue	Chelsea	Monro Shipyard	4.00	Medium = 8'-24'	Low 1.5'-3'
•	53 Marginal Avenue	Chelsea		4.50	Medium = 8'-24'	Low 1.5'-3'
•	59-67, 69 Marginal Avenue	Chelsea	Oil Terminal	1.54	Medium = 8'-24'	Very Low 0'-1.5'
•	71-85 Marginal Avenue	Chelsea	Oil Terminal	8.60	Medium = 8'-24'	Very Low 0'-1.5'
•	155-161 Marginal Avenue	Chelsea	Oil Terminal	7.24	Medium = 8'-24'	Very Low 0'-1.5'
•	197,201 Marginal Street	Chelsea		2.26	Medium = 8'-24'	Very Low 0'-1.5'
•	Marginal Street	Chelsea		7.04	Medium = 8'-24'	Very Low 0'-1.5'
•	Marginal Street	Chelsea		6.37	Medium = 8'-24'	Very Low 0'-1.5'
	212-215 Terminal Street	Charlestown	Shipping	16.68	Deep = 35'	Low 1.5'-3'
	210 Terminal Street	Charlestown	Shipping	1.16	Medium = 8'-24'	Low 1.5'-3'
	184 Terminal Street	Charlestown	Shipping	1.96		
	190 Chelsea Street	Charlestown	Shipping	0.72	Medium = 8'-24'	Very Low 0'-1.5'
	164 Terminal Street	Charlestown	Shipping	6.54	Medium = 8'-24'	Very Low 0'-1.5'
	Chelsea Street	Charlestown	Shipping	0.46		
	190 Terminal Street	Charlestown	Shipping	1.77	Medium = 8'-24'	Very Low 0'-1.5'
	188 RI Chelsea Street	Charlestown	Shipping	0.16		
	186 RI Chelsea Street	Charlestown	Shipping	0.14		
	184 RI Chelsea Street	Charlestown	Shipping	0.57		
	164 Terminal Street	Charlestown	Shipping	1.17		
	160 Terminal Street	Charlestown	Shipping	3.12		
	180 Terminal Street	Charlestown	Shipping	29.64	Deep = 35'	Very Low 0'-1.5'
	162 Terminal Street	Charlestown	Shipping	2.31		
	60 Terminal Street	Charlestown	Shipping	11.92	Deep = 35'	Very Low 0'-1.5'
	46 Terminal Street	Charlestown	Shipping	0.31	Medium = 8'-24'	Very Low 0'-1.5'
	281 Medford Street	Charlestown	Shipping	0.03		
•	30 Terminal Street	Charlestown	Shipping	6.04	Medium = 8'-24'	Very Low 0'-1.5'
	291 Medford Street	Charlestown	Shipping	0.70		
	285 Medford Street	Charlestown	Shipping	0.20		
	283 Medford Street	Charlestown	Shipping	3.22	Medium = 8'-24'	Very Low 0'-1.5'
	291 Medford Street	Charlestown	Shipping	0.58		
	305 Medford Street	Charlestown	Shipping	0.04		
•	309 Medford Street	Charlestown	Shipping	2.45	Medium = 8'-24'	Very Low 0'-1.5'
	311 Medford Street	Charlestown	Shipping	0.29		
	325 Medford Street	Charlestown	Shipping	0.16		
•	329 Medford Street	Charlestown	Shipping/Sugar	3.74	Medium = 8'-24'	Very Low 0'-1.5'
	331 Medford Street	Charlestown	Shipping/Sugar	0.30	Medium = 8'-24'	Very Low 0'-1.5'
	329 Medford Street	Charlestown	Shipping/Sugar	0.12		
	335 Medford Street	Charlestown	Shipping/Sugar	0.34		
•	337 Medford Street	Charlestown	Shipping/Sugar	6.53	Medium = 8'-24'	Very Low 0'-1.5'
•	441 Medford Street	Charlestown	Shipping/Sugar	6.76	Medium = 8'-24'	Very Low 0'-1.5'
	395 Medford Street	Charlestown	Shipping/Sugar	0.37		
•	445 Medford Street	Charlestown	Shipping/Sugar	19.28	Medium = 8'-24'	Very Low 0'-1.5'
•	443 Medford Street	Charlestown	Shipping/Sugar	1.12		
•	463 Medford Street	Charlestown		8.90	Medium = 8'-24'	Very Low 0'-1.5'
	459 Medford Street	Charlestown		0.44		
	529 Main Street	Charlestown	Candy Factory	15.74	Shallow = 2'-7'	Very Low 0'-1.5'
	529 Main Street	Charlestown	Candy Factory	0.42		
	3 Alford	Charlestown	Candy Factory	0.22		
	15 Alford	Charlestown		0.19	Shallow = 2'-7'	Very Low 0'-1.5'
	522 Main	Charlestown		4.38		
	19 Alford Street	Charlestown		12.09	Shallow = 2'-7'	Very Low 0'-1.5'
•	Broadway Street	Everett			Medium = 8'-24'	Very Low 0'-1.5'
	Broadway Street	Everett	Oil Terminal/Chemicals		Deep = 25'	Very Low 0'-1.5'
	Broadway Street	Everett			Deep = 25'	Very Low 0'-1.5'
	Broadway Street	Everett	Mystic Steamship Co.		Deep = 25'	Very Low 0'-1.5'
	Broadway Street	Everett	Mumble Oil Wharf		Deep = 25'	Very Low 0'-1.5'
	Broadway Street	Everett	Mumble Oil Wharf		Deep = 25'	Very Low 0'-1.5'
	Broadway Street	Everett	Mumble Oil Wharf		Medium = 8'-24'	Very Low 0'-1.5'
•	Broadway Street	Everett	Marquette Cement Wharf		Medium = 8'-24'	Very Low 0'-1.5'
•	Beacham Street	Everett			Medium = 8'-24'	Very Low 0'-1.5'
•	680 East First Street	South Boston		7.98	Medium = 8'-24'	Very Low 0'-1.5'
	666 Summer Street	South Boston	Ship Repair etc.	50.08	Deep = 35'	Low 1.5'-3'
	162 Northern Ave.	South Boston	Shipping, Warehouse	2.72	Deep = 25'	Low 1.5'-3'
	37-39 Winnisimmet Avenue	Chelsea	Monro Shipyard	2.00	Medium = 8'-24'	Low 1.5'-3'
	SUB			792.09		

BOSTON HARBOR DATABASE

Harborwide Sites

FIGURE 4

TBHA WATER DEPENDENT USE STUDY

4. Site Context Analysis:

The neighborhood context may pose some limitations on the type of redevelopment possible. The densely developed residential and commercial areas press tightly up against the first public ways (Border, New, and Sumner Streets). Immediate backland is not available for heavy industrial support except for limited office and retail type activities. The actual depth of the waterfront parcels along the East Boston shore tends to limit the type of uses possible as well.

5. Regulatory Requirements:

Portions of the site are Designated Port Areas by the State CZM and subject of DPA Regulatory controls. While some uss within these zones do not conform to the definition of maritime dependent industrial use (Liberty Plaza, auto storage, Clean Industries, portions of the EB012 Wigglesworth site) any new uses would be required to conform. City zoning is currently W-1 (waterfront industrial) with a proposal by the BRA under consideration to create an IPOD (Interim Overlay Planning District). Various environmental requirements would apply to any new construction, dredging and/or bulkhead repair.

6. Suitable Water Dependent Uses:

Based on the use characteristics and definitions, there are a range of uses which would be suitable for the sites. Four categories of suitable uses can be identified.

- DPA uses currently seeking sites:

  - o medium or light industrial (hypothetical - no full documentation possible), ship repair and refitting or small shipbuilding (such as the Hood Yard Marblehead)
  - o maritime construction (barge service) and
  - o expansion of Boston Fuel tug boat operations

- DPA priority uses not seeking sites:

  - o fish processing (limited by truck access),
  - o Coast Guard or other military dockage

- Non-DPA uses currently seeking sites:

  - o all DPA uses above,
  - o maritime transportation servicing and storage (not clearly permitted in DPA regulations)
  - o maritime recreation, public parks and open space

- marinas
- fishing and lobstering,
- interim construction staging (limited street access may constrain).

- Non-DPA uses not seeking sites:

- all DPA uses above,
- maritime transportation terminal,
- educational/cultural institutions

Uses which are permitted but do not seem suitable for the sites include heavy maritime industrial (because of limited road and rail access, site size and water depth), sewage treatment facilities, excursion vessels, beaches and swimming. Of the uses mentioned the most suitable would seem to be those which best match the medium depth/limited access pattern, are similar to other maritime support activities currently near the site and which have limited impact on the neighborhood. Such uses would include but not be limited to 1) tow and barge operations expansion, 2) private and public safety expansion, 3) small boatyard, ship repair refitting, and 4) water transportation support services and storage. It should be noted that of these only the shipyard/repair use is clearly acceptable under current DPA priority uses.

HARBORWIDE SITE ANALYSIS: METHODOLOGY

1. Description of Water Dependent Uses by Functional Characteristics: Describe specific use or uses by functional use characteristics according to the data base key.

2. Identify Other Use Characteristics or Limitations: Describe other characteristics not included in the data base such as proximity to other similar activities or other uses, access limitations such as bridges, distances, etc. or other particular associated needs such as backland, infrastructure, etc., cost factors or land area requirements.

3. Compare Specific Use to Harborwide Sites: Identify from data bank all sites which satisfy functional use characteristics and/or other use characteristics.

4. Identify Competing Uses: Since many sites may technically satisfy a particular set of use requirements it may be necessary to identify which of those uses may have more stringent requirements and fewer alternative site options. Try to establish a hierarchy of sites.

HARBORWIDE SITE ANALYSIS: APPLICATION

For purposes of the study two categories of use were selected for comparisons to other sites in the harbor: 1) maritime support, towing and barges and 2) water transportation service and storage.

1. **Description of Water Dependent Uses by Functional Characteristics:**

   The two uses have similar requirements. Both maritime support and water transportation require medium depth, extensive pier frontage, truck servicing, road access, channel access, and moderate wave exposure. The data base retrieval identifies sites for the two uses which are similar but differ with respect to DPA's. For the maritime transportation uses, the same characteristics apply excluding DPA's and therefore excluding some of the sites within the study area. The data base printout is shown in figure 4.3 and potential sites for the two uses are shown in the map in fugure 4.4.

2. **Other Use Characteristics or Limitations:**

   Additional use characteristics not listed above for maritime support would include extensive pier frontage for tugboats and barges. For barge storage the distance between piers would have to allow for maneuverability and multiple berthing as currently exists at the East Boston Piers. Both tugs and barges would prefer to have existing piers in good condition, since new construction would be too expensive. The transportation uses would also need extensive pier frontage in good condition and would prefer not to be enclosed by a moveable span bridge. The storage function could be compatible with other landside uses but the servicing would require both berths and landside warehousing type space. For uses which are actively seeking space, the amount of area needed is important. Since the data base would not include these details, the sites identified would require additional evaluation by these added criteria.

3. **Comparing the Specific Use to Harborwide Sites:**

   Once the data base has been searched for potential sites by functional use characteristics and filtered through the additional use characteristics a series of sites would remain. The sites shown in figure 4.5 need to then be evaluated and prioritized as to their suitability. The East Boston study area can then be rated as to its appropriateness for the two uses being studied.

EAST BOSTON SPECIAL STUDY AREA

Harborwide Sites: Support and Trans. Service

FIGURE 4.

Key

(S) Potential Maritime Support Site

(T) Potential Maritime Transportation Service Site

Special Study Area

N

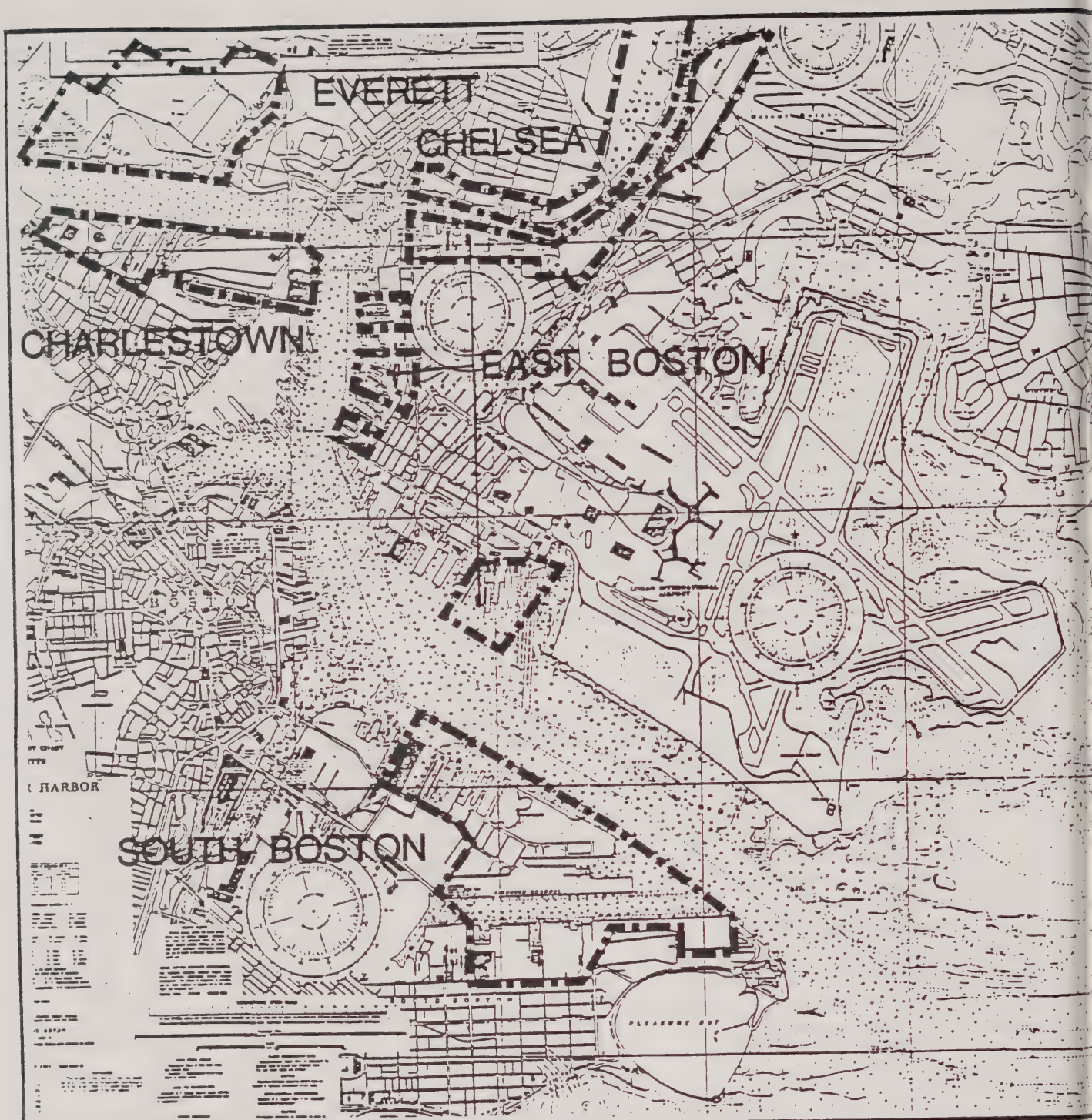
TBHA WATER DEPENDENT USE STUDY

4. Identification of Competing Uses:

To further assess the suitability of alternative sites it is important to screen the identified sites for other competing maritime uses. In the case of the tow and barge sites, they may find that many of the DPA sites in other parts of the harbor are equal or more suitable for deep draft shipping uses (such as the Revere Sugar site or other vacant deepwater piers). On the other hand the DPA sites in the study area seem better suited for maritime support because of their limitations for deep water use (landside and access, water depth). The water transportation bases may also be well suited to both the East Boston DPA sites as well as non DPA sites, and suggests a reconsideration of the DPA regulations for the East Boston area. It should also be noted that the ferry storage can be fragmented into several areas as there are a variety of operators, while a central servicing point for all might be most efficient.

CONCLUSION:

The application of water dependent use techniques to the East Boston study area are intended to show how waterfront sites can be evaluated to determine their most appropriate use. While the analysis was not intended to result in a proposed plan, it does begin to show how a particular segment of waterfront fills a special niche in the overall water dependent use pattern in the harbor as a maritime support center. It also indicated that continuing and expanding such uses are a good match for the functional use characteristics of the area. The study implies that as competing non-water dependent uses are proposed for each site that a harborwide search is in order to determine what future water dependent uses may be foreclosed, particularly in the case of piers or wharves which are in good condition.



BOSTON INNER HARBOR

Designated Port Areas

Figure 4.5

Key

Designated Port Area

4.3 CASE STUDY: DESIGNATED PORT AREAS

Designated Port Areas as an Increasingly Important Regulatory Process:

The Designated Port Area policy as described in the final draft of waterways regulations provide an effective and increasingly important statewide regulatory process for preserving and enhancing water dependent industrial uses in the Boston Harbor as well as other urban ports in Massachusetts. The policy identifies and maps specific parcels of waterfront in 15 harbor communities which are currently in waterfront industrial use and/or exhibit characteristics such as deep water access, landside access and pier or wharf facilities which are necessary for such uses. In the Inner Harbor of Boston, the vast majority of the remaining water dependent industrial uses are currently located in the Designated Port Areas (DPA's) in Boston, Everett, and Chelsea. Protecting and considering expansion of those DPA's becomes more critical to the Port for two reasons: 1) increasing competition from non-water dependent industrial uses for properties adjacent to and within DPA's which drive land values way up, and 2) current Boston and Chelsea efforts to rezone waterfront land by eliminating most of the W-2 zone waterfront industrial areas and replacing them with other non-industrial zoning. The DPA's are rapidly becoming the last strongholds of traditional and emerging maritime businesses in Boston as well as in other harborfront communities.

Another important aspect of the Designated Port Areas are their regional or statewide bias, as they are set by Department of Environmental Quality Engineering. In effect the DPA's comprise a kind of "super" or "overlay" zoning which transcends neighborhood and city interests by considering effects on the overall economy of the region. For example, the Port of Boston shipping industry is dependent upon terminals in Everett and Chelsea for bulk cargo to complement the container sites in Charlestown and South Boston, both of which are in the City of Boston. No single community could effectively provide to all maritime industrial activities for the Port owing to limitations in landside access and competing land uses.

In the 1979 CZM Draft Regulations, the goals of Designated Port Areas were described in policy 7 to:
" ... Encourage the location of maritime commerce and development in segments of urban waterfront designated as port areas. Within these areas, prevent the exclusion of maritime dependent industrial uses that require the use of lands subject to tidelands licenses...."

Parcel No.	Parcel Add.	Parcel City	Land Use Exist.	Acreage	Current Zoning
CH001pr	3 Broadway Street	Chelsea	MI	12.00	W-2
CH002pr	37-39 Winnisimmet Avenue	Chelsea	MI/I/CD	6.00	W-2
CH003pr	53 Marginal Avenue	Chelsea	MI	4.50	W-2
CH004pr	59-67, 69 Marginal Avenue	Chelsea	V	1.54	W-2
CH005pr	71-85 Marginal Avenue	Chelsea	V	0.60	W-2
CH006pr	155-161 Marginal Avenue	Chelsea	V	7.24	W-2
CH007pr	197,201 Marginal Street	Chelsea	CD/V	2.26	W-2
CH008pr	Marginal Street	Chelsea	V	7.04	W-2
CH009pr	Marginal Street	Chelsea	MI	6.37	W-2
CT042pb	212-215 Terminal Street	Charlestown	MI	16.68	W-2
CT043pr	210 Terminal Street	Charlestown	I	1.16	W-2
CT044pb	184 Terminal Street	Charlestown	R of Way	1.96	W-2
CT045pr	190 Chelsea Street	Charlestown	MI	0.72	W-2
CT046pr	164 Terminal Street	Charlestown	MI	6.54	W-2
CT047pr	190 Terminal Street	Charlestown	MI	1.77	W-2
CT048pb	Chelsea Street	Charlestown		0.46	W-2
CT049pb	188 RI Chelsea Street	Charlestown	MI	0.16	W-2
CT050pb	186 RI Chelsea Street	Charlestown	MI	0.14	W-2
CT051pb	184 RI Chelsea Street	Charlestown	MI	0.57	W-2
CT052pr	164 Terminal Street	Charlestown	T	1.17	W-2
CT053pr	160 Terminal Street	Charlestown	T	3.12	W-2
CT054pb	180 Terminal Street	Charlestown	MI	29.64	W-2
CT055pb	162 Terminal Street	Charlestown	MI	2.31	W-2
CT056pb	60 Terminal Street	Charlestown	V	11.92	W-2
CT057pr	48 Terminal Street	Charlestown	CD	0.51	W-2
CT058pr	30 Terminal Street	Charlestown	CD	6.04	W-2
CT059pr	281 Medford Street	Charlestown	T	0.03	W-2
CT060pr	281 Medford Street	Charlestown		0.70	W-2
CT061pr	283 Medford Street	Charlestown	MI	0.20	W-2
CT062pr	285 Medford Street	Charlestown	MI	5.22	W-2
CT063pr	291 Medford Street	Charlestown		0.58	W-2
CT064pr	305 Medford Street	Charlestown		0.04	W-2
CT065pr	309 Medford Street	Charlestown		2.45	W-2
CT066pr	311 Medford Street	Charlestown		0.29	W-2
CT067pr	325 Medford Street	Charlestown		0.16	W-2
CT068pr	329 Medford Street	Charlestown	V	3.74	W-2
CT069pr	331 Medford Street	Charlestown	V	0.30	W-2
CT070pr	329 Medford Street	Charlestown	V	0.12	W-2
CT071pr	335 Medford Street	Charlestown	V	0.34	W-2
CT072pr	333 Medford Street	Charlestown	V	6.55	W-2
CT073pr	441 Medford Street	Charlestown	V	6.76	W-2
CT074pr	395 Medford Street	Charlestown	V	0.37	W-2
CT075pr	445 Medford Street	Charlestown	MI	19.28	W-2
CT076pr	445 Medford Street	Charlestown	MI	1.12	W-2
CT077pr	465 Medford Street	Charlestown	CD/I	8.90	W-2
CT078pr	459 Medford Street	Charlestown	CD/I	0.66	W-2
CT079pr	529 Main Street	Charlestown	CD	15.74	W-2
CT080pb	529 Main Street	Charlestown	Park	0.45	W-2
CT081pr	3 Alford	Charlestown	CD	0.22	W-2
CT082pb	15 Alford	Charlestown	Park	0.19	W-2
CT083pb	532 Main	Charlestown	T	4.38	W-2
CT084pb	19 Alford Street	Charlestown	Park	13.09	W-2
EB002Apr	400 Border Street	East Boston	I	1.55	W-2
EB003pr	404 Border St.	East Boston	V	5.37	W-2
EB004pr	334,362,368,374 Border St.	East Boston	MI	6.80	W-2
EB006pr	246 Border St.	East Boston	CD	3.24	W-2
EB007pr	246 Border St.	East Boston	I	2.84	W-2
EB008pr	230 Border Street	East Boston	CD	6.14	W-2
EB009pr	178,184,220 Border St.	East Boston	CD	6.52	W-2
EB012pr	80 Border St.	East Boston	I	0.51	W-2
EB013Apr	40 New Street	East Boston	I	4.32	W-2
EB013pr	60 Border St.	East Boston	I	1.20	W-2
EB014pr	34 New Street	East Boston	MI	1.13	W-2
EB022pb	229,233,279,287 Marginal St.	East Boston	MI	17.08	W-2
EB023pb	299,311,325,327,337 Marginal	East Boston	V	4.60	W-2
EB031pb	610 Chelsea Street	East Boston	MPS	0.16	W-2
EB032pr	460,570 Chelsea Street	East Boston	MI	22.26	W-2
EB033pr	370 E. Eagle Street	East Boston	MI	1.95	W-2
EB034pb	338 E. Eagle Street	East Boston	T	6.67	W-1
EB035pb	320 Condor Street	East Boston	I	0.97	W-1
EB036pb	300 Condor Street	East Boston	V	4.04	W-2
EB037pb	200 Condor Street	East Boston	V	2.30	W-1
EB038pr	192 Condor Street	East Boston	V	6.04	W-1
EB039pr	178 Condor Street	East Boston	I	0.30	W-1
EB040pr	174 Condor Street	East Boston	I	2.41	W-1
EB041pr	172,146,142 Condor Street	East Boston	MI	8.35	W-2
EB042pr	130 Condor Street	East Boston	V	1.52	W-2
EB043pr	130 Condor Street	East Boston	V	0.91	W-1
EB044pr	102 Condor Street	East Boston	CD	1.44	W-1
EB045pr	98 Condor Street	East Boston	CD	3.11	W-2
EB046pr	98 Condor Street	East Boston	CD	0.38	W-1
EB047pr	96,94 Condor Street	East Boston	MI	4.47	W-2
EB048pr	34 May Street	East Boston	MI	0.96	W-2
EB049pr	66 Condor Street	East Boston	MI	0.42	W-2
EB050pr	22, 32 May Street	East Boston	MI	5.24	W-2
EB051pr	50 Condor Street	East Boston		0.45	W-1
EB052pr	479 Meridian Street	East Boston	MI	3.40	W-2
EV001pr	Broadway Street	Everett	I/V		
EV002pr	Broadway Street	Everett	V		
EV003pr	Broadway Street	Everett	MI		
EV004pr	Broadway Street	Everett	MI		
EV005pr	Broadway Street	Everett	MI		
EV006pr	Broadway Street	Everett	MI		
EV007pr	Broadway Street	Everett	MI		
EV008pr	Broadway Street	Everett	MI		
EV009pr	Beaches Street	Everett	MI		
SB001pb	Conley Terminal, Castle Island	South Boston	MI	42.50	W-2
SB003pr	800 East First Street	South Boston	MI	29.69	W-2
SB004pr	732 East First Street	South Boston	MI	0.02	W-2
SB005pb	680 East First Street	South Boston	V/MI	23.94	W-2
SB006pr	658 East First Street	South Boston	V	24.19	W-2
SB020pb	666R Sumner Street	South Boston	MI	33.75	I-2
SB021pb	666 Sumner Street	South Boston	I/MI	23.67	I-2
SB022pb	310 Northern Avenue	South Boston	I/MI	166.95	I-2
SB023pb	660 Sumner Street	South Boston	MI	47.00	W-2
SB024pb	660 Sumner Street	South Boston	MI	17.50	W-2
SB025pb	Boston Fish Pier	South Boston	MI	8.53	W-2
SB026pb	162 Northern Ave.	South Boston	CD/MI	11.00	W-2

BOSTON HARBOR DATABASE

D.P.A. Parcels

FIGURE 4.6

TBHA WATER DEPENDENT USE STUDY

In the context of a rapidly changing harbor and maritime industry, CZM anticipates an ongoing public process of review and refinement for the use criteria for DPA's for the actual areas designated, and for the conditions which apply. This study was asked to evaluate the DPA process as currently defined using the inner harbor as a case study.

The methodology paralells the case study for East Boston. The initial step is analysis of individual DPA sites and criteria by use of the data base and maritime use definitions. The next exercise evaluates a collection of sites harborwide to test the criteria for DPA's and identify potential areas for expansion of present sites. The analysis concludes with suggested refinements of the process to be considered during the next round of DPA reviews.

Individual Site Analysis: Existing Designated Port Areas

The currently defined Designated Port Areas in the inner harbor are shown in figure 4.5. The areas are located in five neighborhoods; South Boston, Charlestown, Everett, Chelsea, and East Boston. The parcels and their characteristics are described in the data base printout in figure 4.6. The following descriptions summarize the DPA's in terms of primary and secondary uses, and dominant maritime industrial functional use characteristics.

South Boston DPA (figure 2.4)

- Primary Use: Maritime industrial-heavy and medium including shipping (general dry bulk) wet bulk and shipbuilding, at Conley Terminal, BMIP and the Reserved Channel.

- Secondary Use: Light industrial and water transportation including Fish Pier, lobster fishermen and excursion boat terminals (large and medium).

- Characteristics: Longest pier frontage of DPA's, largest piers, deep water access (to improve with pending seaport access road), some vacant and underutilized sites. Non-maritime industrial mixed use within DPA (Design Center, Commonwealth Pier)

Charlestown DPA (figure-2.6)

- Primary Use: Maritime industrial - heavy, including general and dry bulk shipping at Moran Terminals.

- Secondary Use: Mixed Use offices

- Characteristics: Long wharf frontage, deep water access, rail connections, vacant and underutilized sites, (Revere Sugar, Schiavoni Scrap Metal). Mixed use within DPA in converted warehouse buildings.

Everett DPA (figure 2.7)

- Primary Use: Maritime industrial - heavy and medium, including wet bulk shipping, marine construction and fish processing.

- Secondary Use: Bulk storage in tank farms and Edison Electric.

- Characteristics: Deep water wharf front, available backland, underutilized and vacant sites, rail access, no mixed use.

Chelsea DPA (figure 2.8)

- Primary Use: Maritime industrial, medium with bulk shipping wet and dry, small boat repair.

- Secondary Use: None

- Characteristics: Deep water access, narrow land parcels, vacant and underutilized sites, environmental waste on some sites (Cabot, oil storage areas), operable bridge limitations, narrow channel with heavy wake, partially deteriorating bulkhead.

East Boston DPA's (figure 2.9)

- Primary Uses: Area 1) Chelsea Creek - maritime industrial heavy and medium, including bulk shipping wet, ship repair; Area 2) West shore - industrial medium and maritime support, including ship repair, tug and pilots; Area 3) Boston Ship - maritime industrial - heavy, shipyard.

- Secondary Uses: Area 1)- mixed use, Area 2)- mixed use, Area 3) - recreation, yacht club.

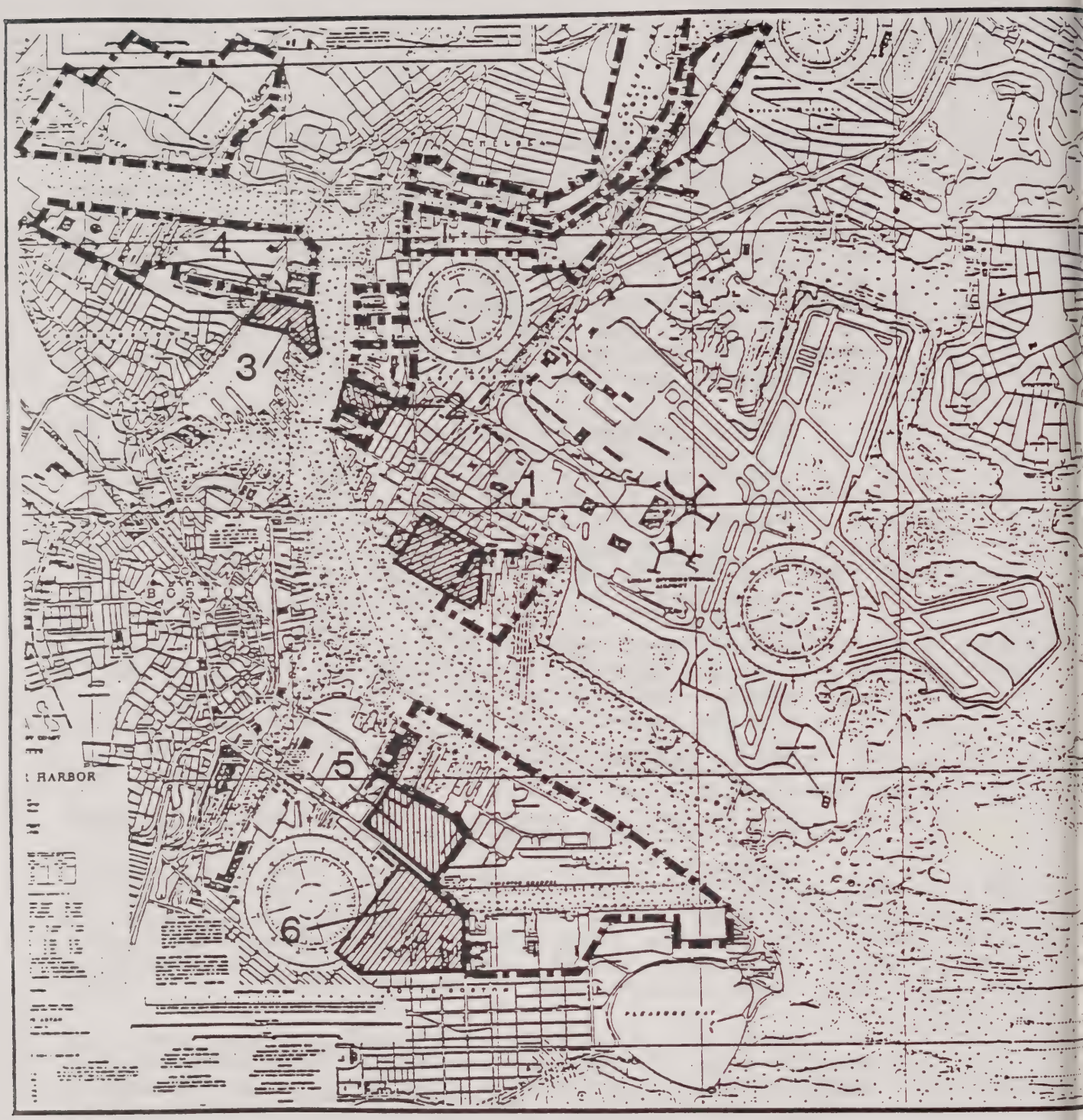
- Characteristics: Area 1)- deep water, Narrow land parcels, some vacant and underutilized and partially deteriorating bulkhead, Area 2) - medium water, finger piers, fragmented zones, limited land access, some vacant or underutilized parcels, Area 3)- deep water shipyard infrastructure, limited access, property vaca

Harborwide Site Analysis: Existing and Potential DPA's

Criteria for Designated Port Areas: A set of statewide criteria were used to establish the DPA's in the inner harbor as well as the other communities in harbors such as Gloucester, Lynn, and New Bedford. When the existing inner Boston Harbor sites were compared to these criteria they conformed to varying degrees, owing to changes in use that may have occurred since they were established as well as the difficulty of meeting all criteria set on a statewide basis.

- Highway Access is limited in varying degrees to all sites. Until the seaport access road and third harbor tunnel are completed, highway connections will have to be made over local streets for all areas.
- Rail Access potential was limited to four sites (CT, EV, CA, EB 1) and varied in quality.
- Water Depth conforms to the 20' depth at most locations. However, the Boston Shipping norm is 35 feet, and several sites do not meet the actual deep water requirement. (EB1, EB2) Areas with medium water depth (8' to 30') are not generally suitable for heavy industrial use.
- Pier, Wharf, and Dock characteristics vary considerably in terms of construction and conditions.
- Residential Neighborhoods abut DPA's in several cases (EB 1, EB 2, EB 3, CH, CT).
- Non-Water Dependent Mixed Uses have infiltrated into several DPA's since their initial designation. While they are not prohibited in DPA's, the purpose was to discourage such uses, especially when occupying pier space such as Commonwealth Pier.

Actual DPA site characteristics indicate that there may not be a match between several of the medium water depth and small parcel sites (such as those described in the East Boston special study area or portions of Chelsea Creek) and the currently permitted DPA industrial uses. In such cases it may be appropriate to keep those DPA's but to develop more appropriate recommended use categories for specific sites (such as maritime service transportation and support for the East Boston study area).



BOSTON INNER HARBOR

Designated Port Area Expansion Sites

Figure 4.7

Key

DPA Expansion Site

N

Special criteria may also be needed from one port to another where natural geological and man-made characteristics differ and where desired maritme uses may have significantly different shipping characteristics. For example, the deep draft shipping in the Boston Harbor requires different DPA characteristics than the fishing industries in New Bedford or Gloucester. A detailed inventory of uses and characteristics for each port can help in refining the criteria and tailoring them to the specific port's needs.

Potential for Expansion of Designated Port Areas:

In an attempt to locate candidates for expanding the existing Designated Port Areas or establishing new ones, the data base was searched for parcels which satisfied the existing criteria. It is interesting to note that the exercise produced no additional candidates for several reasons. As described above, since none of the existing DPA's fully meet all of the criteria, it was highly unlikely that other sites would be better suited. Of the sites which met most of the criteria the following are worth noting and are shown in figure 4.7.

1. **East Boston Piers 1 through 5:** The piers satisfy deep water access, suitable topography and context, available utilities (data incomplete), and limited rail connections. However, the site presently has limited highway access, faces mixed community reaction to shipping uses, and is affected by a recent bill in the legislature for partial use of the piers as a public park and a lobster fishing pier. It should be noted that the site remains as the next best deep water shipping terminal in the harbor along with Moran and Conley, and serious consideration should still be given to land banking the site with interim uses, in case deep water shipping or other similar uses require future expansion space. When combined with the adjacent shipyard DPA, the site could provide a major new maritime industrial site, all of which is currently in public ownerhsip. Utilization of these piers for maritime purposes other than shipping or shipbuilding will limit port expansion to existing areas in Charlestown, South Boston, Chelsea and Everett.

2. **Border Street East (EB011):** The former Coal Pier site owned by the city of Boston is problematic in meeting criteria. It has limited highway access, a poor bulkhead and several submerged and dilapidated piers. However, it is in a key linking position between other DPA's and if designated would create a far more viable parcel for that section of East Boston for maritime support type industries as described in the special case study area.

3. **Charlestown Navy Yard - North End:** The ending piers on the Little Mystic would qualify with respect to the criteria. However, as part of the Navy Yard the site has been already committed to other uses by the BRA and would pose problems of conflict with other adjacent mixed uses. The sites are currently in public ownership.

4. **Little Mystic Bridge:** Ironically the reconstruction of the bridge over the Little Mystic as a fixed span has severely limited maritime and recreational use of the south side of the Moran Terminal, and also closed a valuable harbor of refuge. Consideration should be given in the future for restoring the short moveable span bridge to permit more active shipping use of the well protected deepwater channel and wharf frontage. The sites are currently publicly owned.

5. **South Boston - Back Reserved Channel:** One of the other two harbors of refuge is the back part of the Reserved Channel, an area currently accessible by a moveable span bridge. While the water depths are medium, the area could serve as a maritime support area as well as for fishing and recreational boating uses. It would also require specialized or diversified use category as a DPA. The sites are partially publicly and privately owned.

6. **South Boston - Commonwealth Flats:** The backland area north of Northern Avenue has long been identified as possible support space for cargo and fishing operations, BMIP and other maritime industrial uses along the South Boston Piers. As other mixed uses are beginning to emerge on Massport and EDIC land, it may be time to reconsider the original committed purpose for the Flats. Many shipping officials regard the continuing use of the Flats for storage, staging and cargo transfer as a key to the future of South Boston as a working deep water port. If it received

Designated Port Area status, it would be more likely to remain in maritime use. Landside access problems will be relieved on completion of the seaport access road and third harbor tunnel, and could be expedited with construction of the possible interim by-pass road. Some protection of this area seems necessary if it is to remain in maritime support use because of competing pressures to develop parcels for mixed use. The site is predominantly in public ownership.

Refining the Regulations:

New Maritime Uses in Designated Port Areas

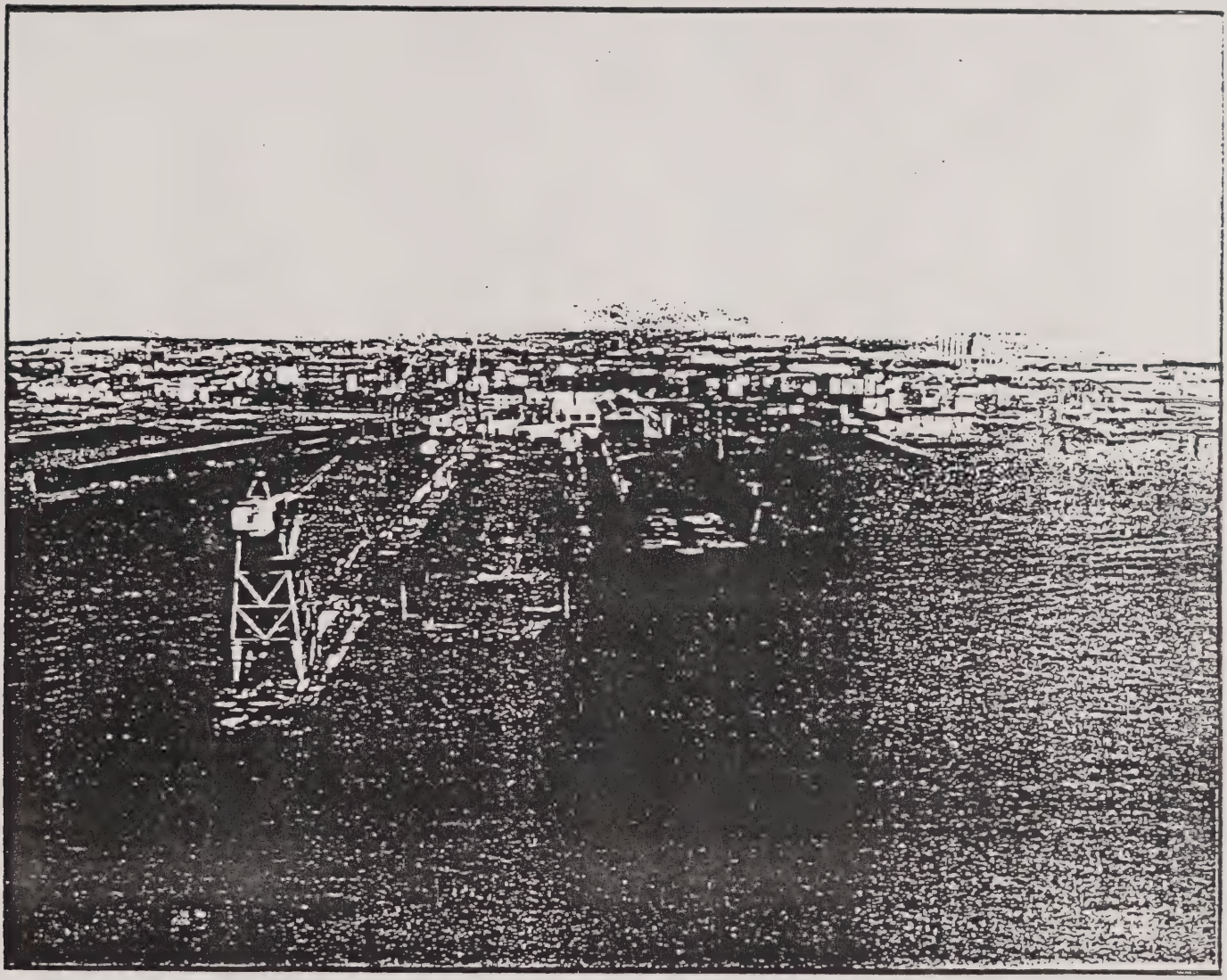
As the next round of reviews of Chapter 91 and DPA regulations begins, there are several areas of refinement which might be considered. In response to the rapid changes taking place in the maritime and other uses of the harbor, it may be necessary to target certain areas with particular water dependent use types which best suit their characteristics and help strenghten established existing maritime businesses. New uses not previously outlined in the guidelines should be considered seriously for all DPA's, but particularly those smaller but very useful areas such as the East Boston sites. Sites where future shipping uses may be desired and projected but which are not yet ready for maritime development, interim or reversible uses should be considered. For example, interim use categories which are emerging such as the Massachusetts Water Resources Authority's construction staging and worker transportation sites could be permitted. In addition, various components of water transportation uses should be seriously considered for inclusion within some of the DPA's. The ferry and excursion boat business is returning as a rapidly growing and increasingly important maritime use. Without public assistance these regional businesses may not be able to compete financially with private mixed use for waterfront space.

It is also worth considering a more active promotion campaign for Designated Port Areas. As competing mixed uses occupy waterfront sites such as the World Trade Center on Commonwealth Pier and near-the-waterfront structures such as the Design Center at The Boston Marine Industrial Park, potential maritime sites with deepwater acces are foreclosed. While both appear to be successful, they represent long term leases and major capital investments, and are essentially irreversible uses.

The expansion of Designated Port Areas is worth serious consideration as it relates to the current process of rezoning in the city of Boston. When the DPA regulations were originally drafted, the sites identified in the Boston Harbor were zoned waterfront industrial as was the vast majority of the inner harbor waterfront. As pressures develop to change waterfront zoning to reflect emerging new mixed uses, two significant features of the DPA's are altered. First they are likely to become the only areas where maritime industrial and other water dependent businesses are permitted, whereas at present such uses are permitted as of right for most of the waterfront parcels. And secondly the emergence of adjacent mixed use development next to a DPA will place great economic pressure on industrial uses. Such has been the case on the Portland, Maine waterfront where portions of the maritime industrial waterfront zone have been under great pressure to change to mixed use zoning because of the success of residential and commercial development on immediately adjacent piers.

In response to zoning changes in the Boston Harbor it is likely that DPA expansion should be considered in conjunction with tighter CZM requirements for maritime uses as well as with a broader set of allowable uses. Such measures are statewide, regional regulatory refinements which need to be carefully coordinated with city and local zoning changes. The data base would indicate that while the current DPA's are appropriately located, that other sites in the harbor have functional characteristics suitable to maritime uses and should be preserved as long as possible for maximum public benefit.

CHAPTER 5.0
HARBOR ISSUES:
CHOICES FOR THE FUTURE OF THE PORT



Boston Ship, East Boston

5.0 HARBOR ISSUES: CHOICES FOR THE FUTURE OF THE PORT

5.1 PROVIDING A DYNAMIC INFORMATION BASE FOR HARBOR PLANNING

The primary purpose of the Water Dependent Use Report was to provide the collective group of harbor users and regulators a common overview of land-use and water-use characteristics in the Boston Inner Harbor to serve as a more comprehensive basis for decision making and policy formulation. The research has graphically demonstrated how rapidly the harbor is changing in terms of maritime and other waterfront uses. Even during the relatively short duration of the study, commitments to major public projects, such as the harbor clean up by the MWRA and Third Harbor Tunnel/Seaport Access project, and private development such as the new maritime tenants for Boston Ship and the proposed Fan Pier project indicate the dramatic changes in store for the harbor.

The information base provided by the study needs to reflect the dynamic changes taking place in the harbor. The formats of the data base and definitions are meant to allow for constant updating and revision as uses, ownership, and property conditions change. The analytical methods described are only two of many that can be applied to the data base and definitions. The scope of the data base can also be expanded to include larger areas of the harbor and the rivers which empty into it.

The report was also intended to provide discussion of emerging water dependent use issues and choices which relate to planning and regulatory policy and procedures. It was agreed that each organization would want to discuss the findings and establish their own policy positions based on differing group agendas. The report tries to identify areas of opportunity for strengthening and expanding maritime uses as well as pointing out inconsistencies in the current review and licensing processes.

5.2 PROMOTING WATER DEPENDENT USES: NEXT STEPS

The Water Dependent Use Report, and the process of discussion and review with the agencies and users has established a new framework for waterfront planning. The new data base, the detailed water dependent use definitions and the new analytical techniques all together provide a first step towards planning for the harbor's promising future.

The data base and harbor use maps begin to show a much more detailed and quantifiable picture of how the waterfront lives. The new definitions and analytical techniques provide necessary new planning tools to begin to make informed decisions about specific site use and maritime zones. The findings regarding regulatory procedures such as Chapter 91, Designated Port Areas and new zoning proposals reveal issues and opportunities for more effective implementation of water dependent uses.

There are many additional steps which need to be taken to get the most out of the initial information framework.

The Data Base and Analytical Techniques Need A Home Base:

The data base should be taken over and managed by an agency or organization which has both the mandate and resources to maintain and update the data base on an annual basis and to make the information and computer program available to other agencies, the maritime community and the development community. The management agency is preferably one which has harbor-wide interests and responsibilities which imply a regional or state public agency or a broadly based public interest group of the study sponsors. The most appropriate seem to be entities such as DEQE/CZM, Massport or The Boston Harbor Associates. The report atempted to provide all of the niches and categories where information was needed. Those niches are filled as well as possible given limitations of information availability and time constraints during the course of the study. However, more data needs to be collected

and filed, the rapidly changing land-use and ownership conditions need to be documented, and supplementary files and fields may need to added. The analytical techniques can be refined and expanded with more application to actual sites. A map-generating computer program tied in with the data base would be a very useful additional technique. The data base needs to be expanded to cover the larger harbor and harbor islands, as well as more of the rivers into the harbor.

A Harbor Economic-Development Analysis is Needed: The report focused on the physical environmental characteristics and selected regulatory procedures. It was apparent from the start that any practical harbor land use policy would require a sound economic base and that a market study was also necessary. The city and state economy have much to gain from the effective resource management of the seaport. In the longer term, beyond the current real estate boom, there are many diverse benefits to be realized in the harbor including maritime employment, import/export business for the region, and expansion of recreational uses. An ongoing market analysis can help to guide choices about land-use, particularly those which are presently in public ownership.

A Coalition of Harbor Agencies, Organizations, and Users is Needed:

A formalized expansion of the coalition of key agencies and organizations involved with waterfront planning, regulation, and development is urgently needed to keep communications open and to work towards a policy concensus for the future of the harbor. As all of the jurisdictions have equally important roles to play in balanced development of the seaport, a steering committee is needed to see the harbor safely through to its new role as a modern seaport and urban waterfront community. Representation of the neighborhoods surrounding the harbor is needed for better communication regarding harbor policy and development. Similarly representatives of waterfront user groups are essential to the coalition.

5.3 REGULATORY AND PLANNING POLICY: REVIEW AND REFINEMENT

A variety of issues regarding inner harbor regulatory and planning policy have surfaced during the study. They are collected here and divided into several interrelated categories: 1) land and water use policy, 2) seaport growth and development issues, and 3) harbor management and regulatory procedures.

Land and Water Use Policy: While there are many precedents for the establishment of public land-use policy in Boston and other similar waterfront cities, there are fewer models of water-use policy. In Boston much of the land-use change on the downtown and North End waterfront is a result of efforts by the Boston Redevelopment Authority in the 1960's and 1970's to revitalize the center city. The Harborpark process was intended by the BRA as the needed updating of waterfront guidelines in the ambitious Harborpark plan drafted in 1984. Models for policy setting can be observed in other port cities which have working waterfronts such as San Francisco, CA, Portland, OR, Portland, ME, and Seattle, WA,. Public waterfront policies have responded to each of these unique settings with considerable success. The key issue in each city has been to preserve the maritime uses along substantial sections of the waterfront and mediate conflicting market-generated development pressures, by protecting prevailing use patterns and invoking vestigial tideland laws. Boston is now well into the same phase of harbor opportunity management and can benefit by observing these largely successful urban waterfront development plans.

While there are a variety of overlapping regulatory procedures in place to mediate the process of recycling the harbor's edge, what appears to be missing is any comprehensive, publicly approved policy or plan for the harbor as a whole and for the careful incorporation of those clearly differentiated geographical areas and neighborhoods which comprise the waterfront of the Inner Harbor. The Harborpark process provides a good framework for public policy formulation, but requires a far more traditional planning and land-use policy with the two major public landowners, which control large amounts of waterfront. A clarification of positions by Massport and EDIC with respect to water dependent use of leased waterfront properties seems appropriate.

The Commonwealth Flats area has long been land-banked for the purposes of backland for Conley Terminal, BMIP and other seaport activities in South Boston. Proposed plans for office buildings behind Commonwealth Pier as a part of the World Trade Center may be in conflict with water-dependent use in two ways: 1) as irreversible uses they reduce area available for storage and staging in the event of continuing growth in seaport activity, and 2) the volume of office development combined with Commonwealth Pier and other new office development at the Fan Pier and Pier 4 are likely to compete with seaport traffic in South Boston for use of existing and new access roads.

At the Boston Marine Industrial Park, non-water dependent uses such as the new Design Center and Au Bon Pain have been located in the Designated Port Area. The BRA's IPOD zoning proposal may exempt the BMIP from waterfront industrial zoning. If the proposed zoning proceeds, there could be speculation on further mixed use of the area. If the South Boston Seaport area is to remain functional and allowed ample room to grow during the next ten years, the effect of non-conforming and non-reversible uses should be carefully considered. While a proportion of mixed use in maritime areas can be accomodated, the scale of these examples is large enough to begin to put pressure on neighboring maritime activity.

Waterfront landbanking has effectively been practiced for many years by Massport, by the city, and by private owners almost by default, in the absence of development pressures and in response to current waterfront industrial zoning (W2). If a public policy for waterfront land-use were established through zoning changes, a more limited pattern of banking may result.

The proposed rezoning of the Boston and the Chelsea waterfronts constitute deliberate changes in land policy. As presently conceived they appear to permit considerably less maritime activity than the current zoning allows. In the draft IPOD proposal for Boston several inconsistencies need to be considered with respect to an assumed water dependent use bias. The five areas proposed as exceptions to the proposed waterfront zoning and design guidelines constitute large segments of the remaining deep water harbor. Exempted areas include BMIP, Fan Piers/Pier 4,Charlestown Navy Yard, East Boston Piers, and NDP-II. There is also an assumption that Massport property is exempted from new zoning, which requires clarification.

These exceptions would seem to encourage large-scale mixed-use projects which tend to diminish opportunities for seaport and other water-dependent uses. They generally preclude direct use of parcels for such uses, by raising values to such a level that the relatively low investment maritime uses cannot compete.

5.4 REVITALIZING THE HARBOR: THE CHOICE IS OURS

As the city continues to rediscover its harbor, redefine its edges and revitalize its wealth of activities, there are many positive choices to be made in forging a port for the 21st century. This report has tried to identify the many patterns of water dependent activity which are evolving and to suggest techniques for stimulating their growth. The traditional maritime activities are being supplemented with new water dependent industries and recreational uses. The new port of Boston is becoming increasingly diversified as container ships and sailboats find ways of sharing the channel, while shipyards and condominiums cohabit the shore. The choices confronting the harbor have to do with balancing the new with the traditional. This report has identified and defined the rich array of water dependent uses which currently occupy the harbor and those emerging uses which together will characterize the port of tomorrow. For each of the major uses, current patterns and future needs have been discussed.

- Shipping activities have stabilized and are poised for expansion. They need additional deepwater pier frontage, improved access, and ample nearby backland to grow comfortably.

- Shipbuilding and Repair businesses will follow the pattern of commercial shipping, fishing and recreational boating. There are opportunities and infrastructure available for expansion if areas are zoned and set aside for these uses.

- Maritime Support including towing, barging and pilot businesses also respond to the growth of the shipping industry and require expansion space to peg pace. East Boston has traditionally provided such facilities and can continue to in the future.

- Water Transportation services are expanding rapidly and require passenger terminal dockage, support service centers and overnight storage space. Current facilities are at peak operation.

- Harbor Public Safety needs will also increase with expanding commercial and recreational boating and need designated central dockage for fire boats, harbormaster, and harbor police. The Coast Guard does not anticipate expansion.

- Maritime Recreational Uses need designated areas for expanded dockage, mooring, and shoreside services. Such uses are adaptable and can occupy spaces less suited to other maritime activities.

- Marine Educational and Cultural Institutions need improved land and waterside access, and greater visibility for improved year round use, such as construction staging and ship dockage.

- Interim Maritime Uses can be encouraged for waterfront sites which are being land-banked for future permanent uses.

- Future Maritime Uses such as water treatment and transportation facilities can be anticipated and accomodated through waterfront land-banking and land-use policy.

The Boston harbor is similar to many older American port cities in having a multitude of overlapping governmental jurisdictions from neighborhood to city to state to federal. The web of overlaid regulatory procedures which apply to the harbor currently define an undocumented public land and water use policy of checks and balances. The combined effects of Chapter 91 licensing, Designated Port Areas, and Massport policy at the state level, along with the waterfront industrial zoning, the appeals process, and Harborpark planning at the city level constitute the primary waterfront land-use controls. Any modifications to these existing regulation procedures, particularly proposed zoning changes at the city level and major public capital improvements such as the third harbor tunnel will alter the effective policy and future of the waterfront. As such changes evolve, the regulatory agencies and public have an opportunity to insure that such changes lead to the desired waterfront and port of the future, and that growth of maritime uses such as those identified above are both encouraged and protected.

The Boston harbor is physically and geographically unique in several repsects. The water area is compact and surrounded by distinct waterfront precincts and neighborhoods, each of which has a different maritime character. There are always fascinating views across the harbor to a nearby shore with the downtown as a focus.

There has been a rich historical evolution of maritime uses from colonial times to the present. The data analysis of the existing waterfront has documented the rapid change of uses as well as the wealth of different waterfront conditions and resources available. The harbor can still accomodate a rich mixture of traditional and new water dependent maritime uses. The waterfront can also incorporate many of the non-water dependent developments which are greatly enhanced by the spectacular views of the revitalized port.

There is enough harbor space for ample amounts of all of these waterfront activities according to the data base. The question is one of proportion; what constitutes a healthy balance of maritime and water enhanced uses and how is that mixture achieved. The choices belong to the Commonwealth.

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The Boston Harbor Associates

51 Sleeper Street
Boston, Mass. 02210
Telephone (617) 330-1134